CDP-911/911E

SERVICE MANUAL

AEP Model
CDP-911
UK Model
CDP-911E

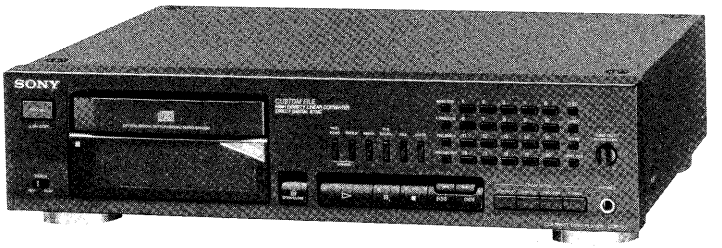


Photo : CDP-911

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM25-5BD10
Optical Pick-up Block Type	BU-5BD10B

SPECIFICATIONS

Compact disc player

Laser	Semiconductor laser
Wavelength	780-790 nm
Frequency response	2 Hz to 20 kHz ±0.3 dB
Signal-to-noise ratio	More than 116 dB
Dynamic range	More than 100 dB
Harmonic distortion	Less than 0.0025%
Channel separation	More than 110 dB

Outputs

LINE OUT (FIXED) (phono jacks)
Output level 2 V (at 50 kilohms)
Load impedance over 10 kilohms
LINE OUT (VARIABLE) (phono jacks)
Output level max. 2 V (at 50 kilohms)
Load impedance over 50 kilohms
DIGITAL OUT (OPTICAL) (optical output connector)
Wave length 660 nm
Output level –18 dBm
PHONES (stereo phone jack)
Output level max. 28 mW
Load impedance 32 ohms

General

Power requirements	CDP-911 (AEP, Germany model): 220 V – 230 V AC, 50/60 Hz CDP-911E (UK model): 240 V AC, 50 Hz CDP-911(Australian model): 240 V AC, 50 Hz CDP-911 (E, Saudi Arabia model): 110 - 120, 220 - 240 V AC, 50/60 Hz
Power consumption	16 W
Dimensions (approx., including projections)	430 x 110 x 355 mm (w/h/d) (17 x 4 $^{5}/_{16}$ x 14 inches)
Mass (approx.)	CDP-911: 4.8 kg (10 lbs 10 oz) CDP-911E: 5.3 kg (11 lbs 11 oz)

— Continued on next page —

COMPACT DISC PLAYER

SONY®

Remote commander

Remote control system	Infrared control
Power requirements	3 V DC with two R6 (size AA) batteries
Dimensions (approx., including projections)	
	62 x 18 x 175 mm (w/h/d)
	($2\ ^1/_2$ x $^{23}/_{32}$x 7 inches)
Mass (approx.)	130g (4.6 oz)

Supplied accessories

Audio cord	(1) (2 phono plugs – 2 phono plugs)
Remote commander	(1)
Sony SUM-3 (NS) batteries	(2)

Design and specifications are subject to change without notice.

The laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside of the unit.

CAUTION	:	INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	:	USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅUDS ÆTTELSE FOR STRÅNING.
VAROI	:	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING	:	LASERSTRALING NAR DENNA DEL AR OPPNAD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL	:	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGA EKSPONERING FOR STRÅLEN.

TABLE OF CONTENTS

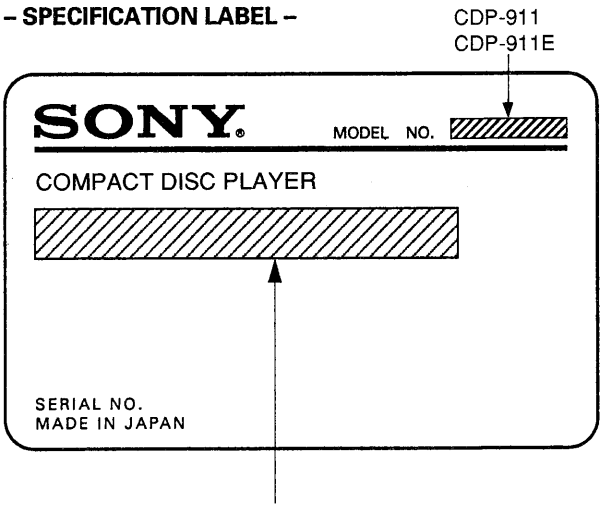
Section	Title	Page
SECTION 1.	SERVICING NOTE	3
SECTION 2.	GENERAL	
2-1.	Parts Identification	4
2-2.	Hooking Up the System	5
SECTION 3.	DISASSEMBLY	6
SECTION 4.	ELECTRICAL CHECKING	7
SECTION 5.	DIAGRAMS	
5-1.	IC Pin Functions	9
5-2.	Semiconductor Lead Layouts	15
5-3.	Waveforms	16
5-4.	Block Diagram	17
5-5.	Circuit Boards Location	20
5-6.	Printed Wiring Board	21
5-7.	Schematic Diagram	25
5-8.	IC Block Diagrams	29
5-9.	Terminal Connection of Fluorescent Indicator Tube (FLD401)	30
SECTION 6.	EXPLODED VIEWS	
6-1.	Cabinet Section	32
6-2.	Front Panel Section	33
6-3.	CD Mechanism Section (CDM25-5BD10)	34
6-4.	Optical Pick-up Block Section (BU-5BD10B)	35
SECTION 7.	ELECTRICAL PARTS LIST	36

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

MODEL IDENTIFICATION

– SPECIFICATION LABEL –



AEP, Germany MODEL : AC220 — 230V, 50/60Hz, 16W
Australian, UK MODEL : AC240V, 50Hz, 16W
E, Saudi Arabia Model : AC110 — 120, 220 — 240V, 50/60Hz, 16W

SECTION 1
SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

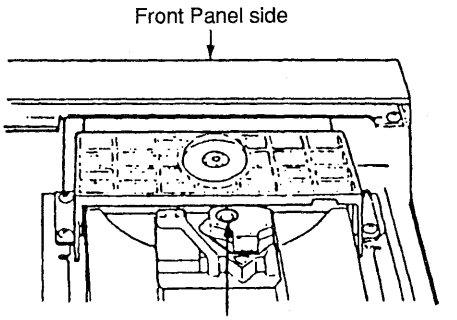
The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

LASER DIODE AND FOCUS SEARCH OPERATION CHECK

1. Make POWER switch on with no disc inserted and disc table closed.
2. Confirm that the following operation is performed while observing the objective lens.



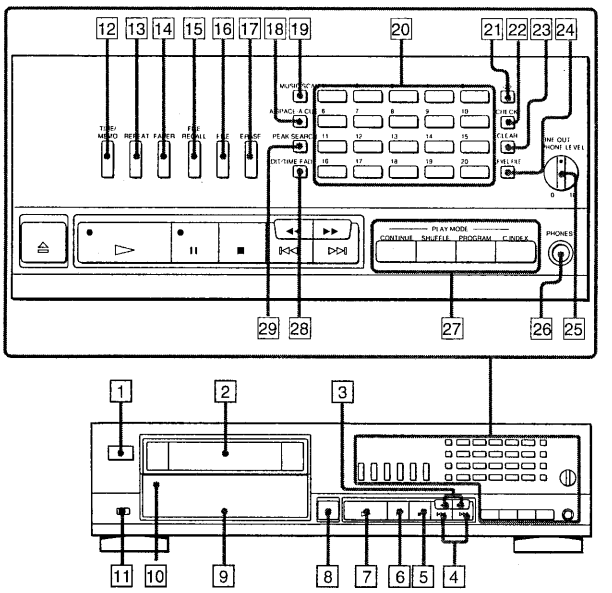
❶ Confirm that laser beam is spread.
❷ Up and down motion of the objective lens. (3 times)

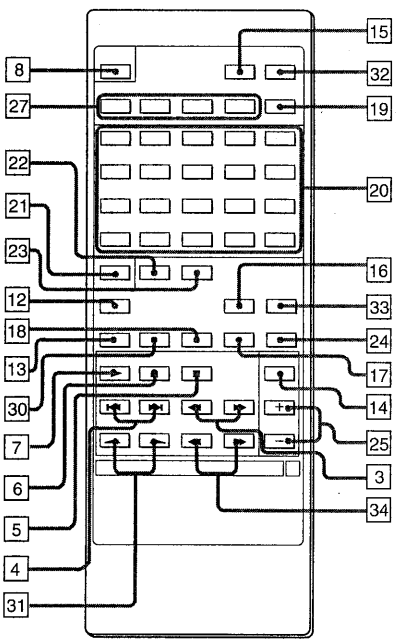
How to open the DISC TRAY when POWER SWICH turns off
See page 6 for SECTION 3 DISASSEMBLY.

SECTION 2
GENERAL

This section is extracted from instruction manual.

2-1. PARTS IDENTIFICATION





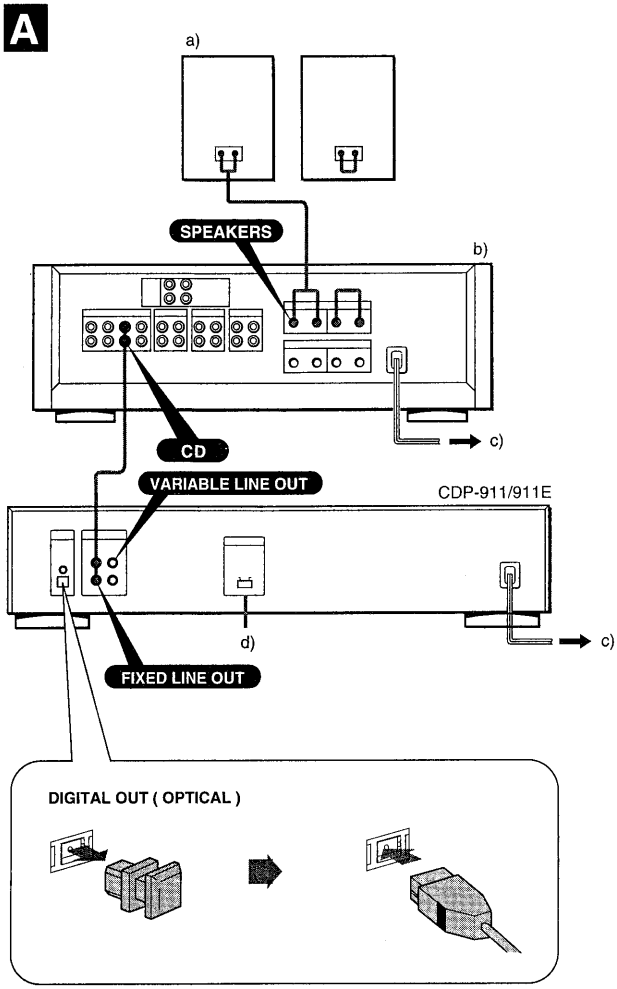
Front Panel/Remote Commander

1 POWER switch
2 Disc tray
3 ◀◀/▶▶ (manual search) buttons
4 I◀◀/▶▶I (AMS*) buttons
5 ■ (stop) button
6 II (pause) button and indicator
7 ▶ (play) button and indicator
8 ≜ OPEN/CLOSE button
9 Display
10 Remote sensor
11 TIMER switch
12 TIME/MEMO button
(TIME on the remote commander)
13 REPEAT button
14 FADER button
15 FILE RECALL button
16 FILE button
17 ERASE button
18 A.SPACE/A.CUE button
19 MUSIC SCAN button
(M.SCAN button on the remote commander)
20 Numeric buttons
21 >20 (over 20) button
22 CHECK (program check) button
23 CLEAR (program clear) button
24 LEVEL FILE button
25 LINE OUT PHONE LEVEL control
(LINE OUT LEVEL +/– buttons on the remote commander)
26 PHONES jack
27 Play mode buttons
CONTINUE button
SHUFFLE button
PROGRAM button
C.INDEX
28 EDIT/TIME FADE button
29 PEAK SEARCH button
30 A↔B button
(only on the remote commander)
31 ←/→ INDEX buttons
(only on the remote commander)
32 DISPLAY MODE button
(only on the remote commander)
33 MEMO INPUT button
(only on the remote commander)
34 ◀◀/▶▶ SLOW button (only on the remote commander)

* AMS is the abbreviation of Automatic Music Sensor.

2-2. HOOKING UP THE SYSTEM

A



You can connect the unit with an analog or digital signal depending on your amplifier or D/A converter.

Notes on Connection

- Turn off the power of each unit before making connections. Connect the AC power cord last.
- Be sure to insert the plugs firmly into the jacks. Loose connections may cause hum and noise.
- Leave a little slack in the connecting cord to allow for inadvertent impact or vibration.
- The supplied audio cord plugs and jacks are color coded. Red plugs and jacks are for the right channel (R) and white ones are for the left channel (L).

Connecting to an Equipment A

a) Speaker system
b) Amplifier
c) to an AC outlet
d) Voltage selector (except for European and Australian models)

When using the LINE OUT

FIXED: The output level is fixed.
VARIABLE:The output level can be adjusted with the LINE OUT PHONE LEVEL control (or the LINE OUT LEVEL +/– on the remote commander).

Notes on LINE OUT

- Connect your system to the VARIABLE output when using level file.
- If the LINE OUT PHONE LEVEL control (or the LINE OUT LEVEL +/–) is adjusted while recording, the recording level will change even when it is preset on the tape deck.

When using the DIGITAL OUT (OPTICAL)

When connecting to an amplifier or a D/A converter with an optical cord, use DIGITAL OUT (OPTICAL) instead of LINE OUT.

Take off the cap, and plug in firmly.

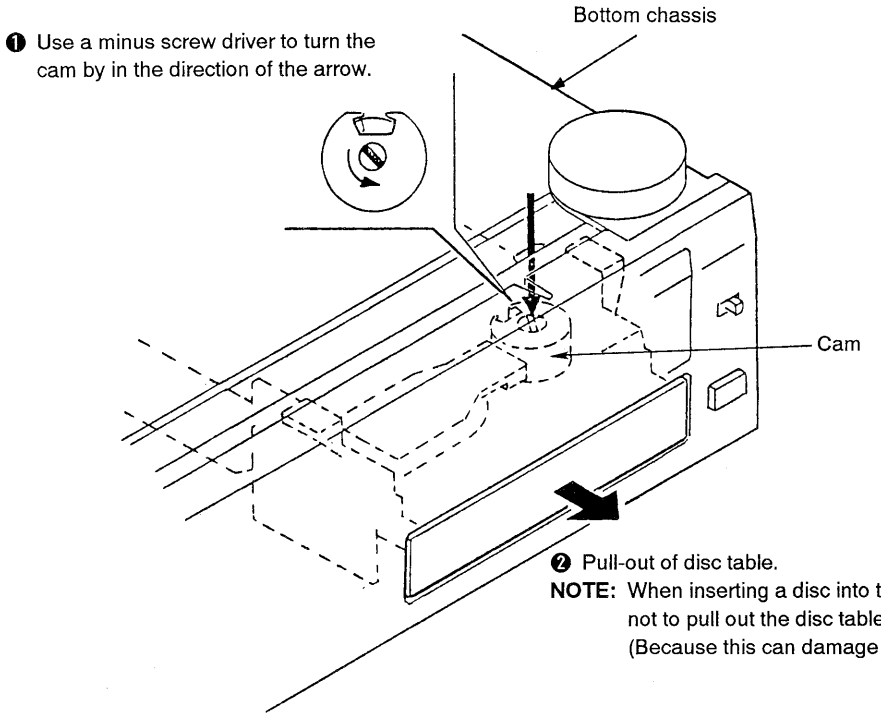
Notes on DIGITAL OUT (OPTICAL)

- When connecting with DIGITAL OUT (OPTICAL), use the POC-15 audio optical connecting cord (not supplied).
- Note that when the DIGITAL OUT is connected, fade out, fade in, time fade and level file functions cannot be used.
- Note that there may be some noise when you play a CD software other than music (such as a CD-ROM).

SECTION 3
DISASSEMBLY

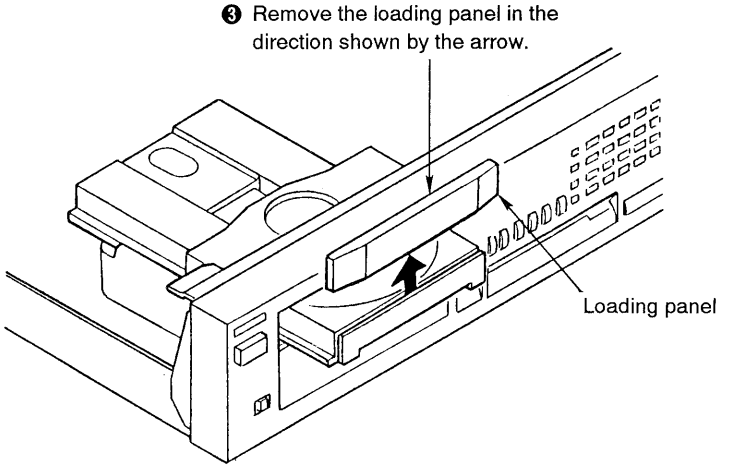
- **Remove the following devices shown by ❶, etc. In the order of the numbers.**

REMOVAL OF LOADING PANEL



❷ Pull-out of disc table.

NOTE: When inserting a disc into the disc table, take care not to pull out the disc table and drop the disc. (Because this can damage the disc).

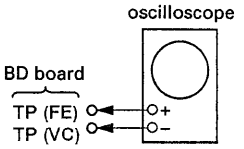


SECTION 4
ELECTRICAL CHECKING

Note :

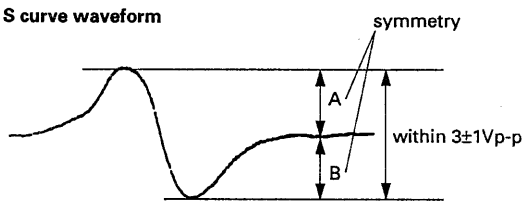
1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :

1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1 Vp-p.

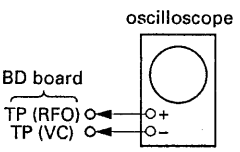


5. After check, remove the lead wire TP (FEI) connected in step 2.

Note : • Try to measure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

• Take sweep time as long as possible and light up the brightness to obtain best waveform.

RF Level Check



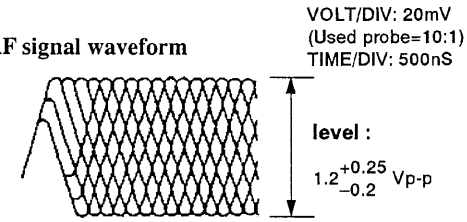
Procedure :

1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

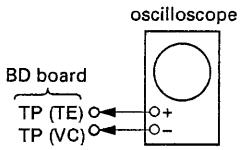
Note :

Clear RF signal waveform means that the shape " ◊ " can be clearly distinguished at the center of the waveform.

RF signal waveform



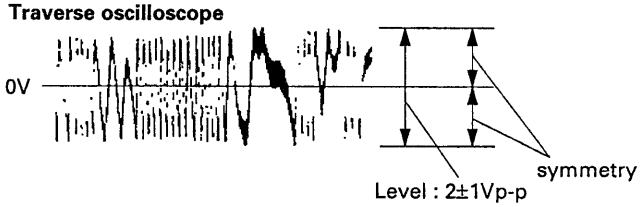
E-F Balance Check



Procedure :

1. Connect test point TP (ADJ) to ground and TP (TEI) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TE) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the oscilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse oscilloscope

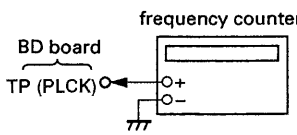


6. Remove the lead wire (TP [ADJ] and TP [TEI]) connected in step 1.

RF PLL Free-run Frequency Check

Procedure :

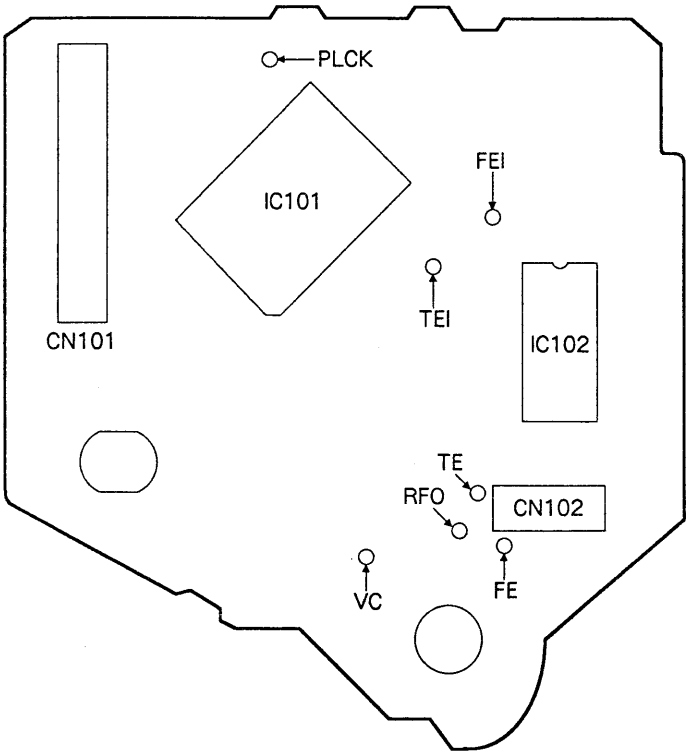
1. Connect frequency counter to test point (PLCK) with lead wire.



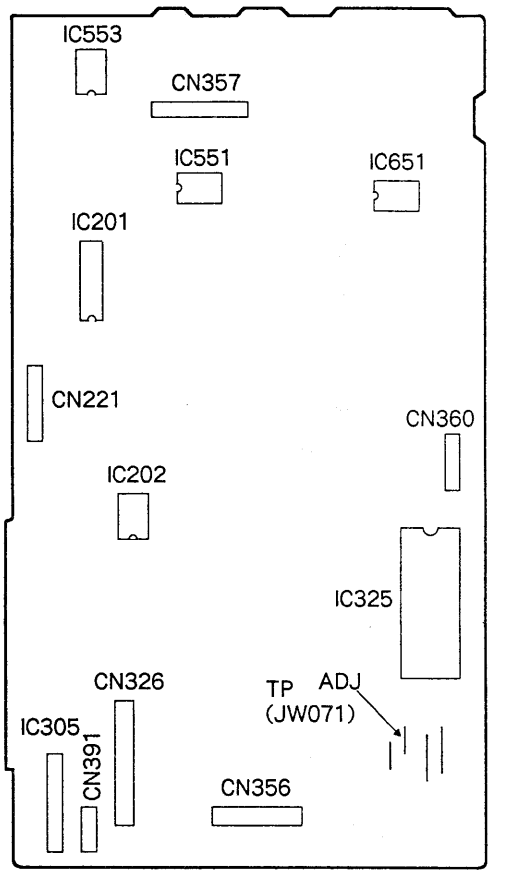
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that reading on frequency counter is 4.3218MHz.

Adjustment Location:

[BD BOARD] — Conductor side —



[MAIN BOARD] — Component side —



SECTION 5
DIAGRAMS

5-1. IC PIN FUNCTIONS

- **IC101 DSP Controller (CXD2515Q)**

Functions effected by the captioned controller include focus (tracking/sled servo) EFM comparator, digital signal processor and CLV servo in the CD unit.

Pin No.	Pin Name	I/O	Description
1	SRON	O	Sled drive signal output. (Not in use with the model.)
2	SRDR	O	Sled drive signal output.
3	SFON	O	Sled drive signal output. (Not in use with the model.)
4	TFDR	O	Tracking drive signal output.
5	TRON	O	Tracking drive signal output. (Not in use with the model.)
6	TRDR	O	Tracking drive signal output.
7	TFON	O	Tracking drive signal output. (Not in use with the model.)
8	FFDR	O	Focus drive signal output.
9	FRON	O	Focus drive signal output. (Not in use with the model.)
10	FRDR	O	Focus drive signal output.
11	FFON	O	Focus drive signal output. (Not in use with the model.)
12	VCOO	O	Output of oscillation circuit for analog EFM PLL. (Not in use with the model.)
13	VCOI	I	Input of oscillation circuit for analog EFM PLL. (Not in use with the model.) The equipment is fixed at "L".
14	TEST	I	Test terminal. Normally: ground.
15	DVss	–	Digital ground terminal.
16	TEST2	I	Test terminal. Normally: ground.
17	TEST3	I	Test terminal. Normally: ground.
18	PDO	O	Output of charge-pump for analog EFM PLL. (Not in use with the model.)
19	VPCO	O	Output of charge-pump for variable pitch PLL. (Not in use with the model.)
20	VCKI	I	Clock signal input from VCO for variable pitch. (Not in use with the model.) The equipment is fixed at "L".
21	AVD2	–	Analog power supply terminal.
22	IGEN	I	Power supply terminal for operational amplifier.
23	AVS2	–	Analog ground terminal.
24	ADII	I	A/D converter input.
25	ADIO	O	Operational amplifier output.
26	RFDC	I	RF signal input.
27	TE	I	Tracking error signal input.
28	SE	I	Sled error signal input.
29	FE	I	Focus error signal input.
30	VC	I	Center voltage input.

Pin No.	Pin Name	I/O	Description
31	FILO	O	Output of filter for master PLL.
32	FILI	I	Input of filter for master PLL.
33	PCO	O	Output of charge-pump for master PLL.
34	CLTV	I	Input of control voltage for master VCO.
35	AVS1	–	Analog ground terminal.
36	RFAC	I	EFM signal input.
37	BIAS	I	Input of constant current for auto-assymmetry circuit.
38	ASYI	I	Auto-assymmetry comparator voltage input.
39	ASYO	O	EFM full-swing output.
40	AVD1	–	Analog power supply terminal.
41	DVD1	–	Digital power supply terminal.
42	ASYE	I	ON/OFF control of auto-assymmetry circuit. The equipment is fixed at "H".
43	PSSL	I	Input of output mode select for audio data. The equipment is fixed at "L".
44	WDCK	O	48 bit slot D/A interface word-clock output. (Not in use with the model.)
45	LRCK	O	48 bit slot D/A interface LR-clock output.
46	DATA	O	PSSL=1: DA16 output, PSSL=0: Serial data of 48 bit slot.
47	BCLK	O	PSSL=1: DA15 output, PSSL=0: Bit clock of 48 bit slot.
48	64DATA	O	PSSL=1: DA14 output, PSSL=0: Serial data of 64 bit slot. (Not in use with the model.)
49	64BCLK	O	PSSL=1: DA13 output, PSSL=0: Bit clock of 64 bit slot. (Not in use with the model.)
50	64LRCK	O	PSSL=1: DA12 output, PSSL=0: LR clock of 64 bit slot. (Not in use with the model.)
51	GTOP	O	PSSL=1: DA11 output, PSSL=0: GTOP output.(Not in use with the model.)
52	XUGF	O	PSSL=1: DA10 output, PSSL=0: XUGF output. (Not in use with the model.)
53	XPLCK	O	PSSL=1: DA09 output, PSSL=0: XPLCK output.
54	GFS	O	PSSL=1: DA08 output, PSSL=0: GFS output.
55	PFCK	O	PSSL=1: DA07 output, PSSL=0: PFCK output.
56	C2PO	O	PSSL=1: DA06 output, PSSL=0: C2PO output. (Not in use with the model.)
57	XRAOF	O	PSSL=1: DA05 output, PSSL=0: XRAOF output. (Not in use with the model.)
58	MNT3	O	PSSL=1: DA04 output, PSSL=0: MNT3 output.
59	MNT2	O	PSSL=1: DA03 output, PSSL=0: MNT2 output.
60	MNT1	O	PSSL=1: DA02 output, PSSL=0: MNT1 output.
61	MNT0	O	PSSL=1: DA01 output, PSSL=0: MNT0 output.
62	XTAI	I	X'tal oscillation circuit input. (16.9MHz)
63	XTAO	O	X'tal oscillation circuit output. (Not in use with the model.)
64	XTSL	I	X'tal select input. The equipment is fixed at "H".
65	DVss	–	Digital ground terminal.

Pin No.	Pin Name	I/O	Description
66	FSTI	I	2/3 divide input of ⑫, ⑬ pin.
67	FSTO	O	2/3 divide output of ⑫, ⑬ pin.
68	C4M	O	4.2336MHz output. (Not in use with the model.)
69	C16M	O	16.9344MHz output. (Not in use with the model.)
70	MD2	I	Digital out ON/OFF control terminal. The equipment is fixed at "H".
71	DOUT	O	Output of digital out signal.
72	EMPH	O	Emphasis mode select output of playback disc.
73	WFCK	O	WFCK output.
74	SCOR	O	Sub-code sync output.
75	SBSO	O	Serial output of sub P-W. (Not in use with the model.)
76	EXCK	I	Input of clock signal for SBSO read out.
77	SUBQ	O	Sub-Q 80-bit output.
78	SQCK	I	Clock input for SQSO read-out.
79	MUTE	I	Muting select pin.
80	SENS	O	Sense signal output.
81	XRST	I	System reset signal input.
82	DIRC	I	Used for 1 track jump.
83	SCLK	I	Input of clock signal for read the sens serial data.
84	DFSW	I	DFCT select terminal. The equipment is fixed at "L".
85	ATSK	I	Antch-shock terminal. The equipment is fixed at "L".
86	DATA	I	Serial data input from IC327 (system control).
87	XLAT	I	Latch signal input from IC327 (system control).
88	CLOK	I	Serial data transfer clock input from IC327 (system control).
89	COUT	O	Track count signal output.
90	DV_{DD}	–	Digital power supply terminal.
91	MIRR	O	MIRR signal output. (Not in use with the model.)
92	DFCT	O	Deffect signal output.
93	FOK	O	Focus OK output.
94	FSW	O	Output of filter select for spindle motor (M101).
95	MON	O	Output of ON/OFF control for spindle motor (M101).
96	MDP	O	Output of servo control for spindle motor (M101).
97	MDS	O	Output of servo control for spindle motor (M101). (Not inuse with the model.)
98	LOCK	O	Sled run-away prevention circuit operates when this signal is "L". (Not in use with the model.)
99	SSTP	I	The limit switch (S101) is connected to this pin.
100	SFDR	O	Sled drive signal output.

- **IC327 Main System Controller (M37451M8-331FP)**

Functions effected by the captioned controller include IC101 (Digital signal processing, servo) and loading motor control, data exchange with IC401 (sub system controller).

Pin No.	Pin Name	I/O	Description
1	NC	–	No connection.
2	NC	–	No connection.
3	CNIN (SENSE)	I	Input of SENSE signal for COUT count from IC101 (CXD2515Q).
4	QINT	O	Command pulse output to sub system controller (IC401).
5	M/F	I/O	Master/File command select input and output with sub system controller (IC401).
6	SACK	O	Command acknowridge output to sub system controller (IC401).
7	MREQ	I	Command request input from sub system controller (IC401).
8 to 11	CMD3 to CMD0	I/O	Input and output of data exchange with sub system controller (IC401).
12	CLK	O	Data clock signal output to IC101 (CXD2515Q).
13	XLT	O	Data latch pulse signal output to IC101 (CXD2515Q).
14	DATA	O	Data signal output to IC101 (CXD2515Q).
15	ATT (DATA)	O	Attenuator data output to IC301 (CXD2567M).
16	SHIFT (CLK)	O	Attenuator data clock output to IC301 (CXD2567M).
17	LATCH (XLT)	O	Attenuator data latch pulse output to IC301 (CXD2567M).
18	LDON	O	Laser ON/OFF control output to optical pick-up block.
19	SCOR	I	Sub-code sync (S0+S1) detection input from IC101 (CXD2515Q).
20	NC	–	No connection.
21	NC	–	No connection.
22	NC	–	No connection.
23	NC	–	No connection.
24	NC	–	No connection.
25	CNVSS	–	Ground terminal. (GND)
26	$\overline{\text{RESET}}$	I	Reset signal input. "L": RESET
27	NC	–	No connection.
28	XIN	I	Clock signal input. (10MHz)
29	XOUT	O	Clock signal output.
30	NC	–	No connection.
31	–	–	No connection.
32	GND	–	Ground terminal. (GND)
33	NC	–	No connection.
34	MUTE	O	Muting signal output.
35	WE	O	Write enable output to IC325 (RAM).
36 to 40	A12 to A8	O	Address signal output to IC325 (RAM).

Pin No.	Pin Name	I/O	Description
41	NC	–	No connection.
42 to 49	A7 to A0	O	Address signal output to IC325 (RAM).
50 to 57	D7 to D0	I/O	Input and output of data signal with IC325 (RAM).
58	SENS	I	Input of SENSE signal for COUT count from IC101 (CXD2515Q).
59	GFS	I	GFS signal input from IC101 (CXD2515Q). "L": NG, "H": OK
60	FOK	I	FOK signal input from IC101 (CXD2515Q). "L": NG, "H": OK
61	ADJ	I	Test mode terminal. GFS is no longer monitored during PLAY, PAUSE or SEARCH, while not stopping even with GFS remaining still at "L" (NG).
62	AFADJ	I	Test mode terminal. It is possible to check the interface between the sub system controller (IC401) and this controller (IC327).
63	INSW	I	Input of S151 (Loading in switch).
64	OUTSW	I	Input of S152 (Loading out switch).
65	VLEVEL	I	Level input of remote control volume (RV901).
66	VOLUP	O	Output of volume up control to remote control volume (RV901).
67	VOLDOWN	O	Output of volume down control to remote control volume (RV901).
68	DAVREF	–	Input terminal of reference voltage to D/A input port.
69	ADVREF	–	Input terminal of reference voltage to A/D input port.
70	AVSS	–	Ground terminal. (GND)
71	AVCC	–	Power supply terminal. (+5V)
72	VCC	–	Power supply terminal. (+5V)
73	VSS	–	Ground terminal. (GND)
74	SCLK	O	Calculation readout clock output to IC101 (CXD2515Q).
75	SQCLK	O	Subcode Q data readout clock output to IC101 (CXD2515Q).
76	VOLLED	O	Control output to remote control volume LED (D901).
77	SUB Q	I	Subcode Q data input from IC101 (CXD2515Q).
78	LODIN	O	Output to rotate M201 (loading motor) in the loading in direction. *1
79	LODOUT	O	Output to rotate M201 (loading motor) in the loading out direction. *1
80	NC	–	No connection.

*1 Loading motor control

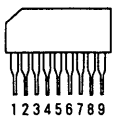
	IN	OUT	BRAKE
LODIN ⑱	"H"	"L"	"H"
LODOUT ⑲	"L"	"H"	"H"

- **IC401 Sub System Controller (MSC62408-100GS-V1K)**
  Functions effected by the captioned controller include fluorescent indicator tube (FLD401) drive control, key IN/OUT control and data exchange with IC327 (main system controller).

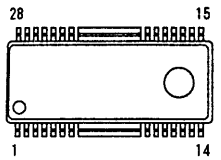
Pin No.	Pin Name	I/O	Description
1	SCAN6	O	Key scan control signal output.
2	TIMER	I	Timer switch (S402) control input.
3 to 9	KEY0 to KEY6	I	Key signal input.
10 to 13	CMD0 to CMD3	I/O	Input and output of data exchange with main system controller (IC327).
14	M.REQ	O	Command request output to main system controller (IC327).
15	S.ACK	I	Command acknowridge input from main system controller (IC327).
16	M/F	I/O	Input and output of master/file command select signal for main system controller (IC327).
17	RMIN	I	Sircs signal input from remote control receiver (IC402).
18	997X/$\overline{ES}$	I	Model selection port. The equipment is fixed at "H".
19	Q.INT	I	Command pulse input from main system controller (IC327).
20	$\overline{RESET}$	I	Reset signal input. "L": RESET.
21	TEST	I	Not in use with the model. The equipment is fixed at "L".
22	–	–	No connection.
28	PAUSE	O	LED drive output of PAUSE indicator.
29	PLAY	O	LED drive output of PLAY indicator.
30	OSC1	I	Clock signal input. (4.19MHz)
31	OSC0	O	Clock signal output.
32	V_{SS}	–	Ground terminal. (GND)
33 to 44	T0 to T11	O	Grid drive signal output to fluorescent indicator tube (FLD401).
45 to 48	S28 to S25	O	Segment drive signal output to fluorescent indicator tube (FLD401).
49	VFLT	I	Input terminal of voltage (+35V) for fluorescent indicator tube (FLD401).
50 to 73	S24 to S1	I	Segment drive signal output to fluorescent indicator tube (FLD401).
74	V_{DD}	–	Power supply terminal. (+5V)
75 to 80	SCAN0 to SCAN5	O	Key scan control signal output.

5-2. SEMICONDUCTOR LEAD LAYOUTS

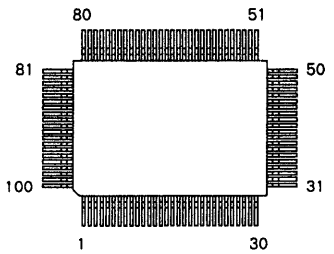
BA6208



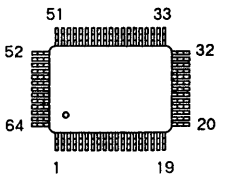
BA6297AFP



CXD2515Q

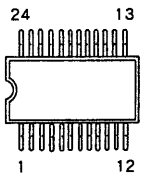


CXD2562Q



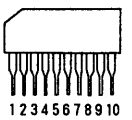
TOP VIEW

CXD2567M

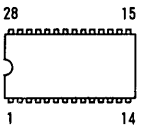


(TOP VIEW)

LB1641

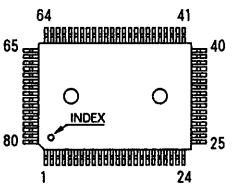


LH5164-H1

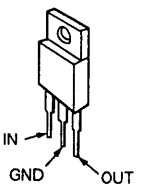


(TOP VIEW)

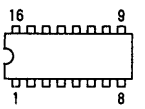
M37451M8-331FP
MSC62408-100GS-V1K



M5F78M07L

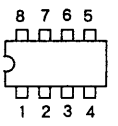


M5290P-16



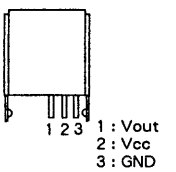
(TOP VIEW)

NE5532P
RC4556D
μPC4558C

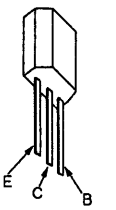


(TOP VIEW)

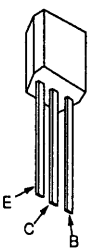
SBX1610-59



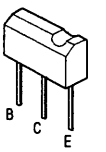
2SC2878-B



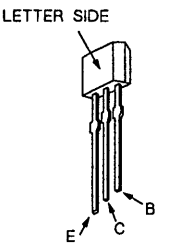
DTA114ES
DTA144ES
DTC114ES
DTC143TS



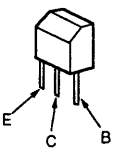
DTC114EF



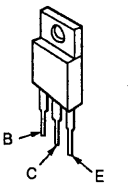
DTC144ES



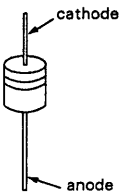
2SB734-34
2SD774-34



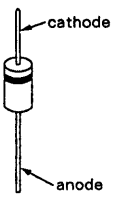
2SD1944-K



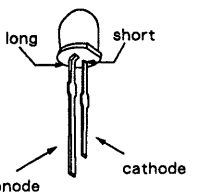
HZS36-3L
RD4.3ES-B2
RD5.1ES-B1
RD8.2ES-B2
11EQS04



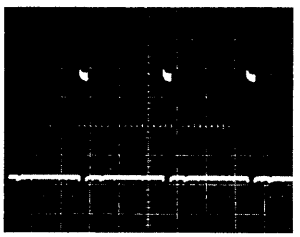
1N4148M
10E2



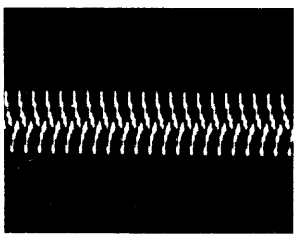
SEL2510C-D
SEL2810A



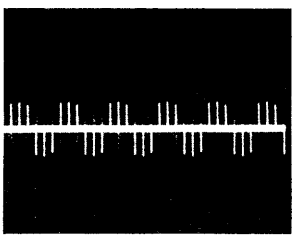
5-3. WAVEWORMS



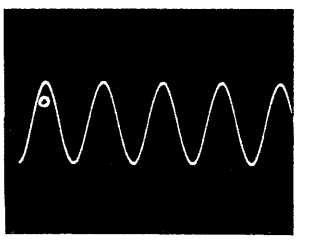
❶ IC401 ㉓-㊿pin,
㊽-㊺pin (S1-S28)
㉝-㊹pin (T0-T11)
37Vp-p, 6msec



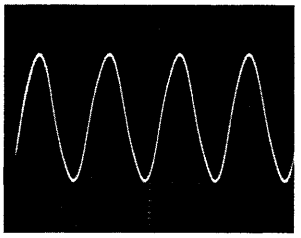
❻ IC101 ㊻pin (DATA)
0.1Vp-p, 0.5µsec



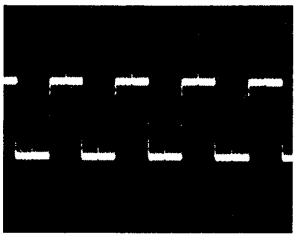
⓫ IC101 ㉛pin (FILO)
1.8Vp-p, 85nsec



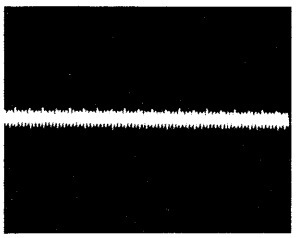
⓰ IC327 ㉘pin (XIN)
5Vp-p, 0.1µsec



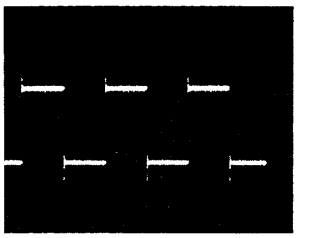
❷ IC401 ㉛pin (OSC 0)
4.4Vp-p, 0.24µsec



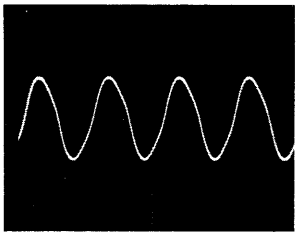
❼ IC101 ㊺pin (LRCK)
4.8Vp-p, 23µsec



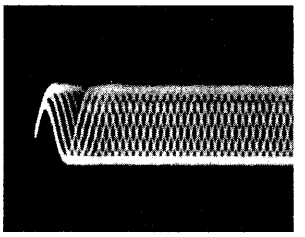
⓬ IC101 ㉙pin (FE)
Approx. 40mVp-p
(Play mode)



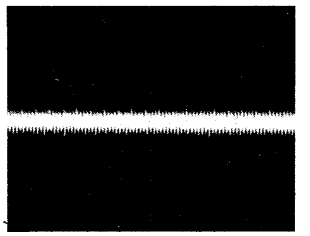
⓱ IC301 ㉒pin (LRCKO)
5Vp-p, 1.4µsec



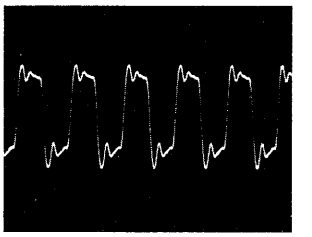
❸ IC401 ㉚pin (OSC 1)
6Vp-p, 0.24µsec



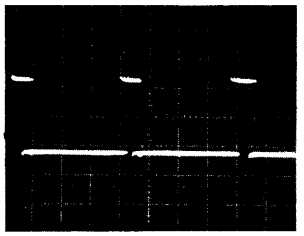
❽ IC101 ㊱pin (RFAC)
Approx. 130mVp-p
(Play mode)



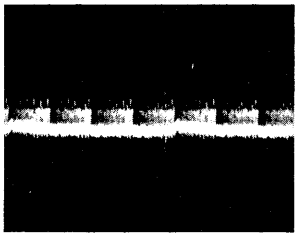
⓭ IC101 ㉗pin (TE)
Approx. 50mVp-p
(Play mode)



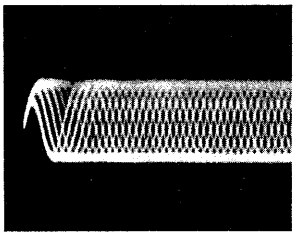
⓲ IC301 ⑲pin (BCKO)
7Vp-p, 0.8µsec



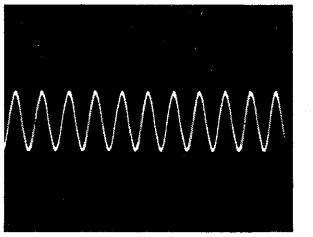
❹ IC401 ㉕-㉚, ①pin
(SCAN 0-SCAN 6)
4.6Vp-p, 7.8msec



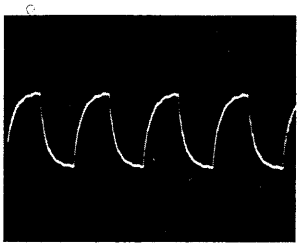
❾ IC101 ㉝pin (PCO)
Approx. 20mVp-p



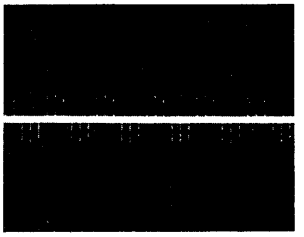
⓮ IC101 ㉖pin (RFDC)
Approx. 175mVp-p
(Play mode)



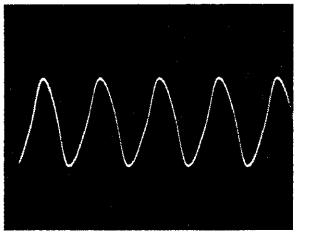
⓳ IC301 ⑰pin (MCLK)
4Vp-p, 45nsec



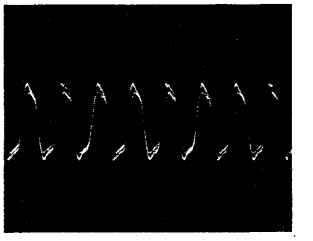
❺ IC101 ㊼pin (BCLK)
4.8Vp-p, 0.48µsec



❿ IC101 ㉜pin (FILI)
80mVp-p, 18µsec

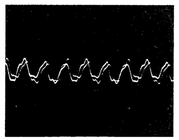


⓯ IC327 ㉙pin (XOUT)
6Vp-p, 0.1µsec



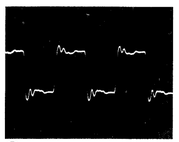
⓴ IC301 ⑮pin (INVO)
4.8Vp-p, 60nsec

5-4. BLOCK DIAGRAM

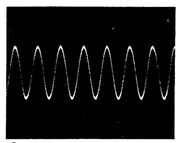


㉑ IC301 ⑭pin (INVI)
1.4Vp-p, 0.8µsec

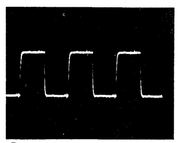
㉖ IC302 ⑩pin (XIN)
6.5Vp-p, 22nsec



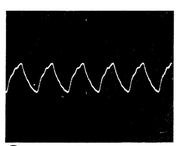
㉒ IC301 ⑬pin (128FS)
6.2Vp-p, 0.16µsec



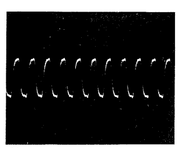
㉗ IC302 ⑨pin (XOUT)
6Vp-p, 68nsec



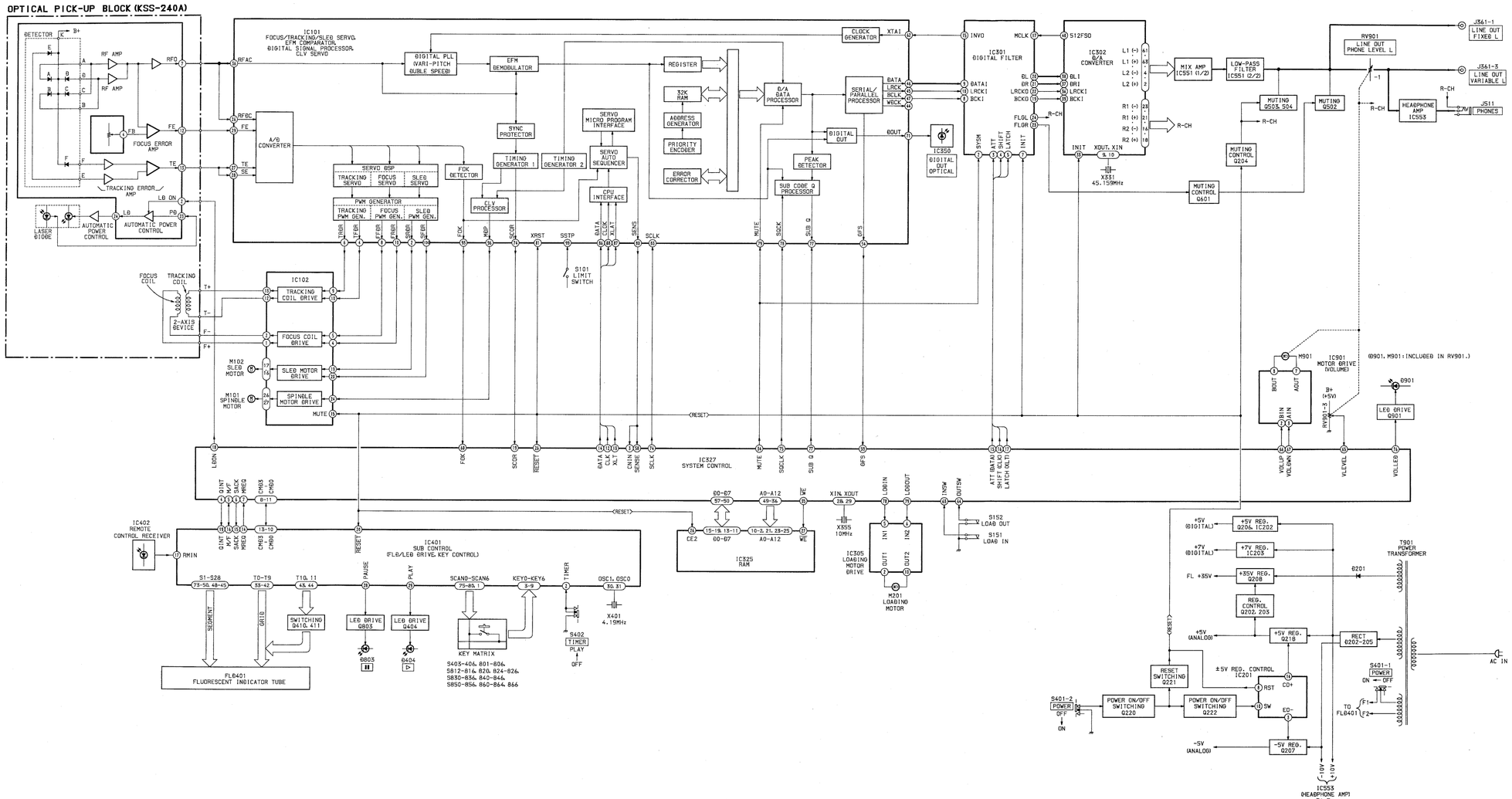
㉓ IC302 ㉟pin (LRCKI)
5Vp-p, 2.9µsec



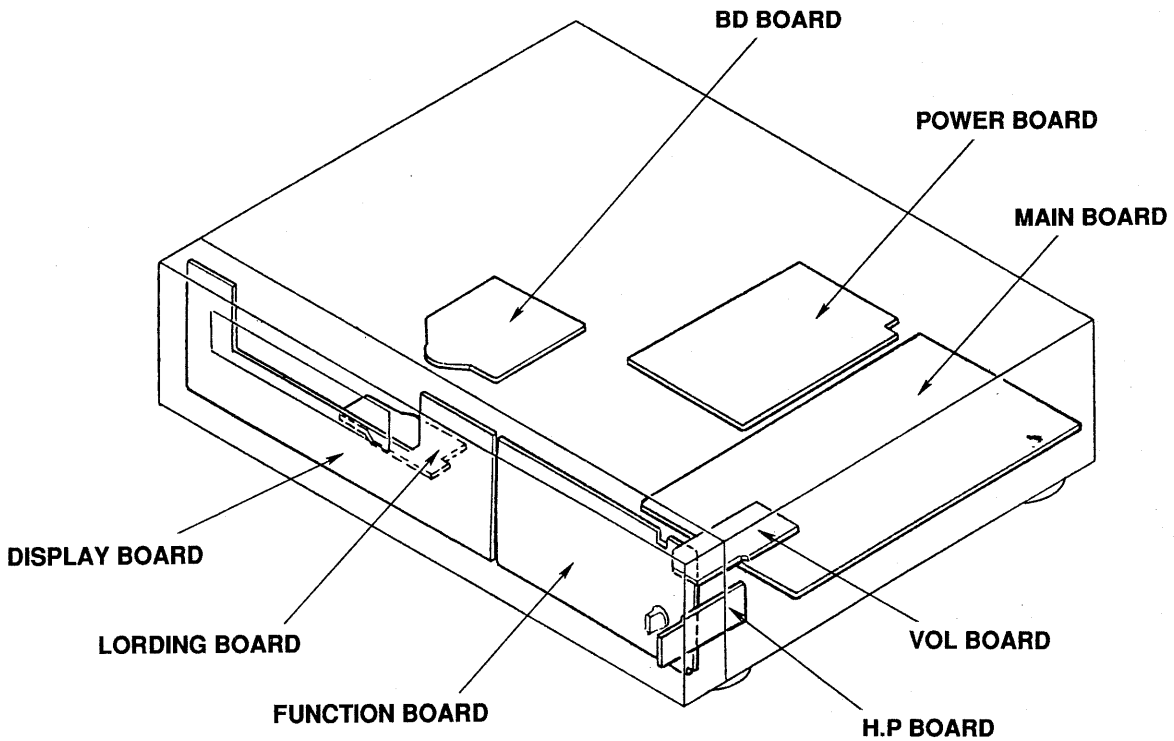
㉔ IC302 ㉘pin (BCKI)
3.8Vp-p, 90nsec



㉕ IC302 ㊵pin (512FSO)
4.2Vp-p, 45nsec



5-5. CIRCUIT BOARDS LOCATION



5-6. PRINTED WIRING BOARDS

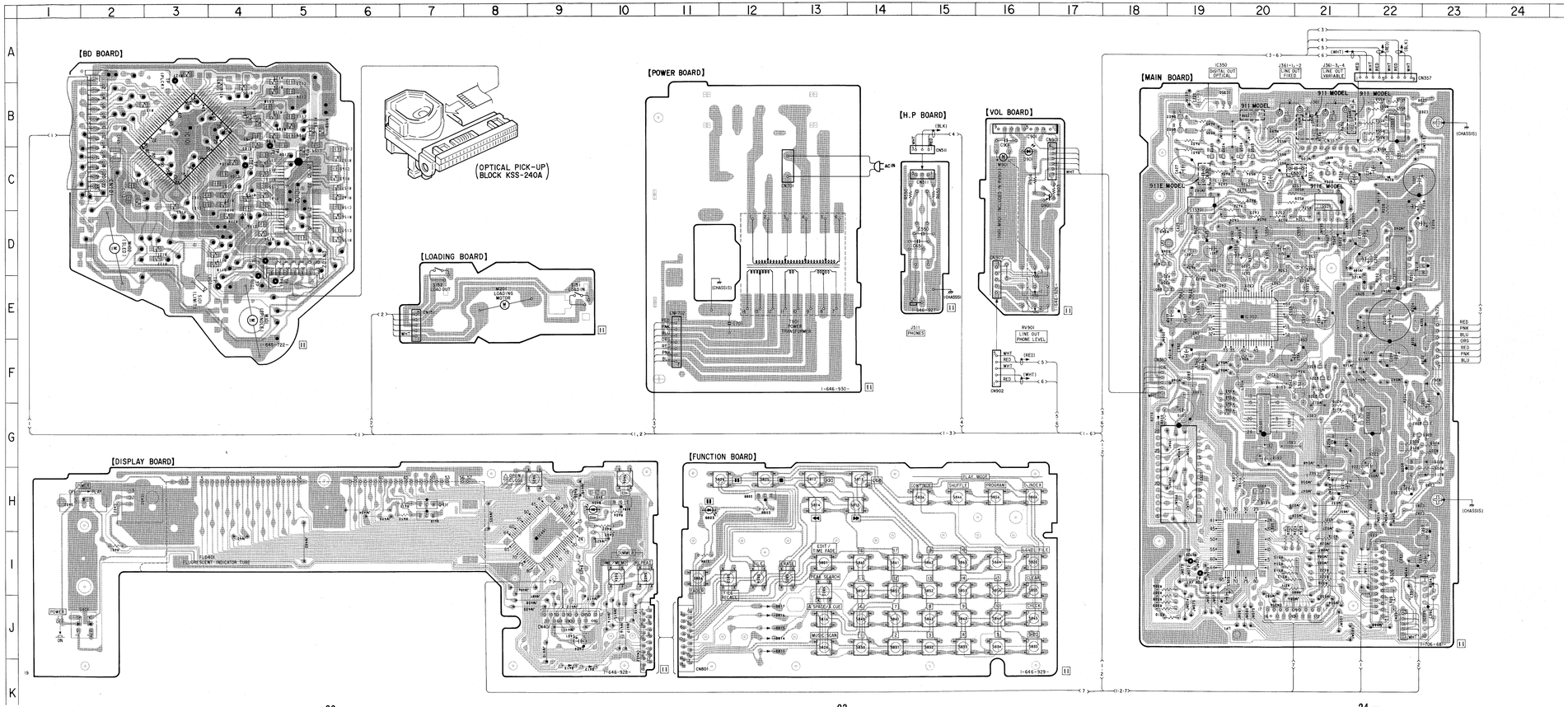
•See page 15 for Semiconductor Lead Layouts and 20 for Circuit Boards Location.

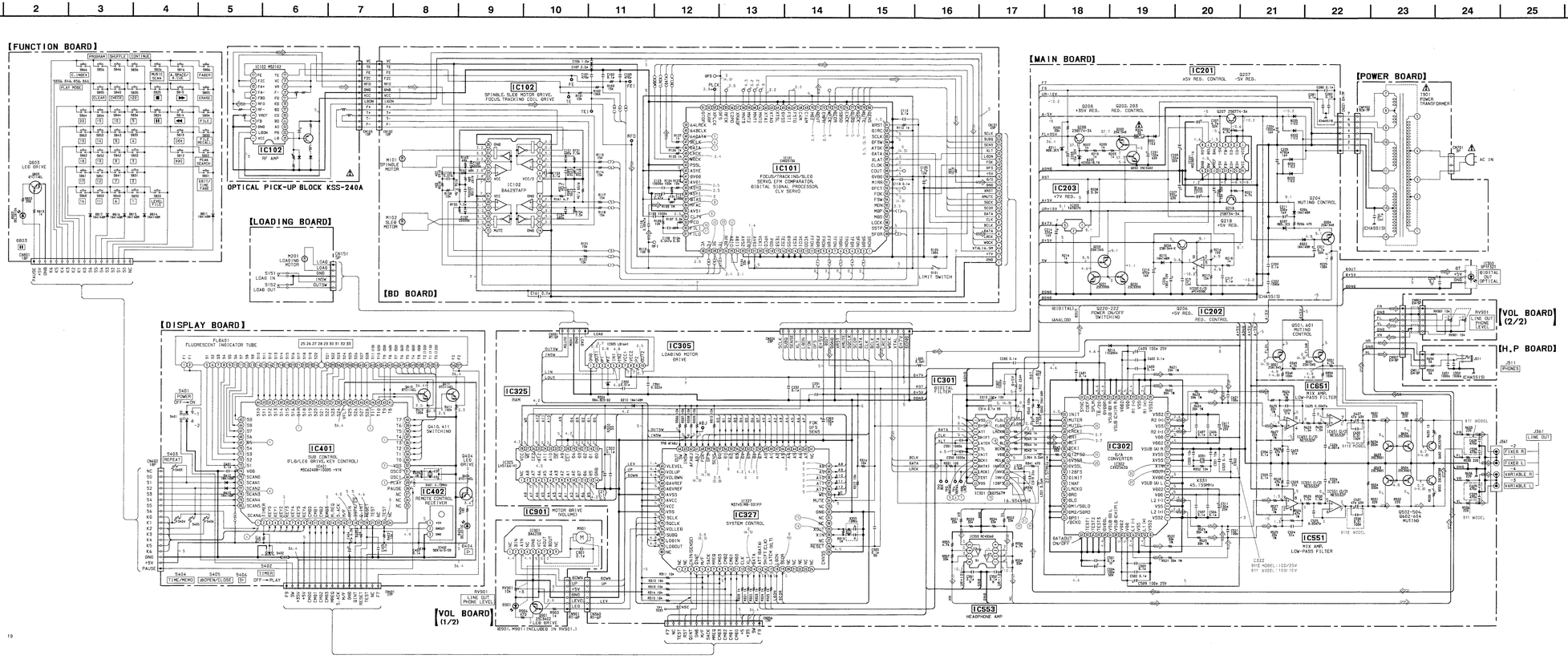
• SEMICONDUCTOR LOCATION

Ref.No.	Location	Ref.No.	Location
D201	F-23	IC325	H-19
D202	F-23	IC327	I-20
D203	E-23	IC350	B-19
D204	E-22	IC401	I-9
D205	F-22	IC402	H-2
D206	C-22	IC551	C-21
D207	C-21	IC553	B-22
D210	G-18	IC651	D-19
D211	H-23	IC901	B-16
D214	F-19	Q202	G-23
D215	G-21	Q203	G-22
D225	G-23	Q204	C-21
D304	I-23	Q206	G-21
D322	D-21	Q207	E-22
D340	F-19	Q208	H-22
D404	H-10	Q218	D-23
D412	K-9	Q220	F-21
D413	K-9	Q221	F-21
D803	H-11	Q222	F-21
D811	J-12	Q404	H-10
D814	J-12	Q410	H-7
D815	J-12	Q411	H-7
D816	J-12	Q501	D-18
D817	J-12	Q502	B-19
D901	C-16	Q503	C-20
IC101	B-3	Q504	C-20
IC102	C-5	Q601	E-18
IC201	D-22	Q602	B-19
IC202	G-22	Q603	C-19
IC203	I-22	Q604	C-19
IC301	G-20	Q803	H-12
IC302	E-20	Q901	C-17
IC305	J-22		

Notes on printed wiring boards:

- O— : Indicated a lead wire mounted on the component side
- ■ : Parts mounted on the conductor side
- ● : Through hole
- ▨ : Pattern from the side which enables seeing
- ▨ : Pattern of the rear side





Notes on schematic diagram:

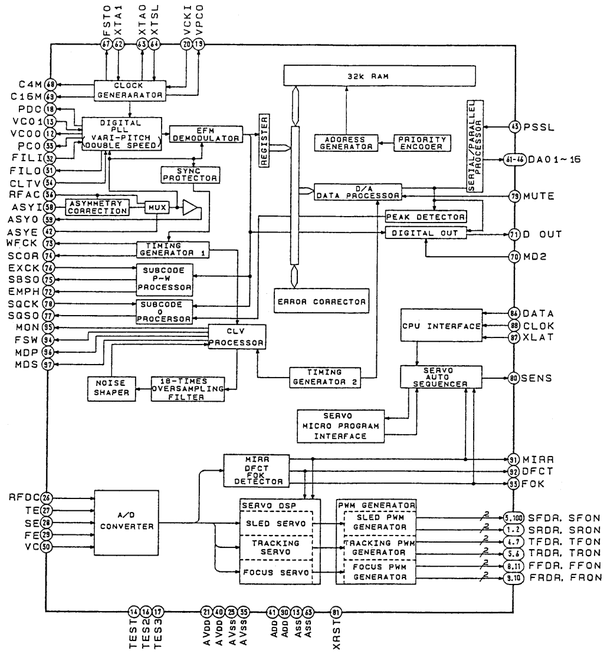
- All capacitors are in μF unless otherwise noted. pF: $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums
- All resistors are in ohms, 1/4W or less unless otherwise noted
- % : Indicates permissible margin
- △ : Internal component
- : Fuse resistor

The components identi- fied by mark ⚠ or dot- ted line with mark ⚠ are critical for safty.
Replace only with part number specified.

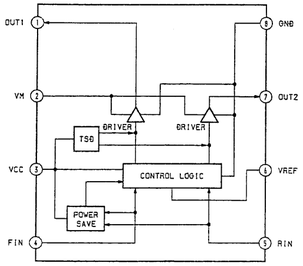
- : B+ line
- : B- line
- [ ] : Adjustment for repair
- Voltage are dc with respect to ground under no-signal condi- tions.
- no mark : STOP
  ( ) : PLAY
- Voltages are taken with a VOM (input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  : CD

5-8. IC BLOCK DIAGRAM

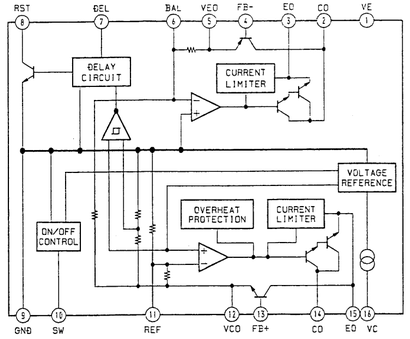
IC101 CXD2515Q



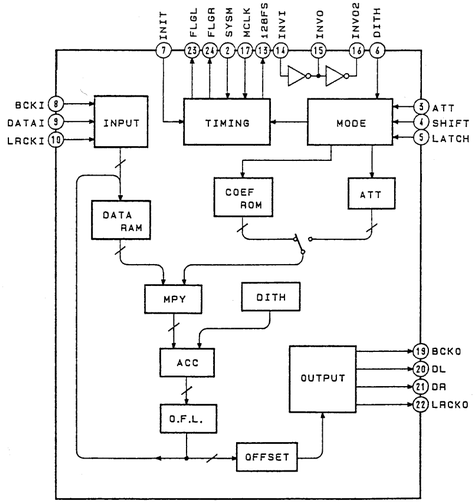
IC102 BA6297AFP



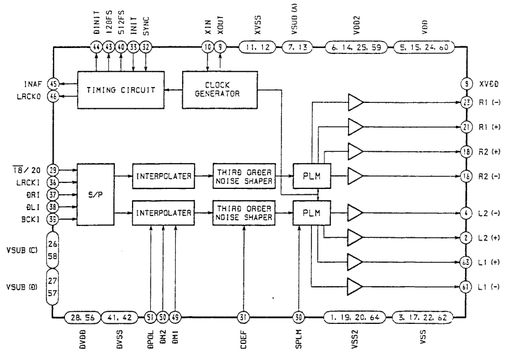
IC201 M5290P-16



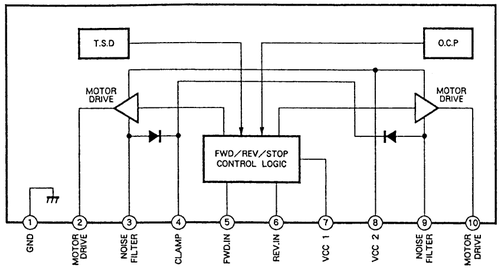
IC301 CXD2567M



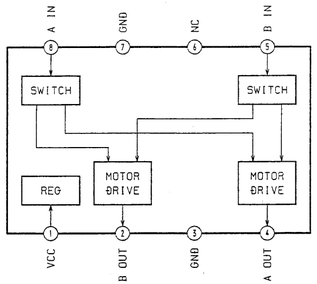
IC302 CXD2562Q



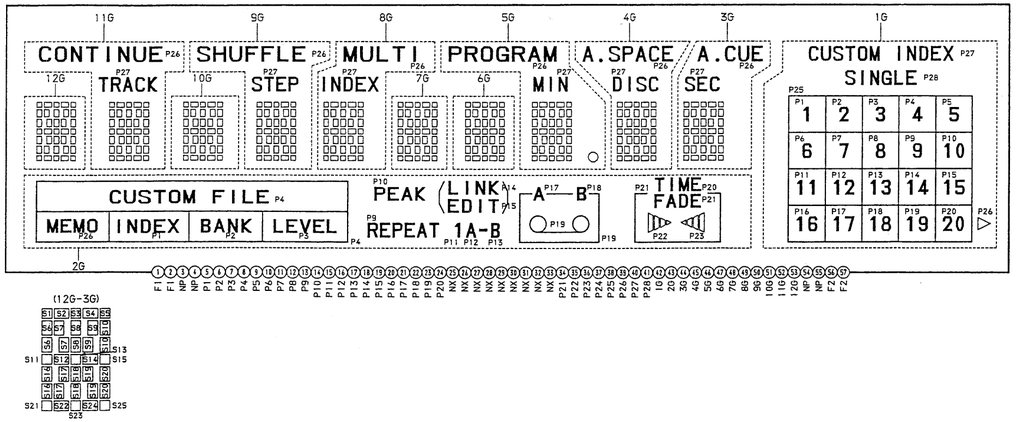
IC305 LB1641



IC901 BA6208



5-9. TERMINAL CONNECTION OF FLUORESCENT INDICATOR TUBE (FLD401)



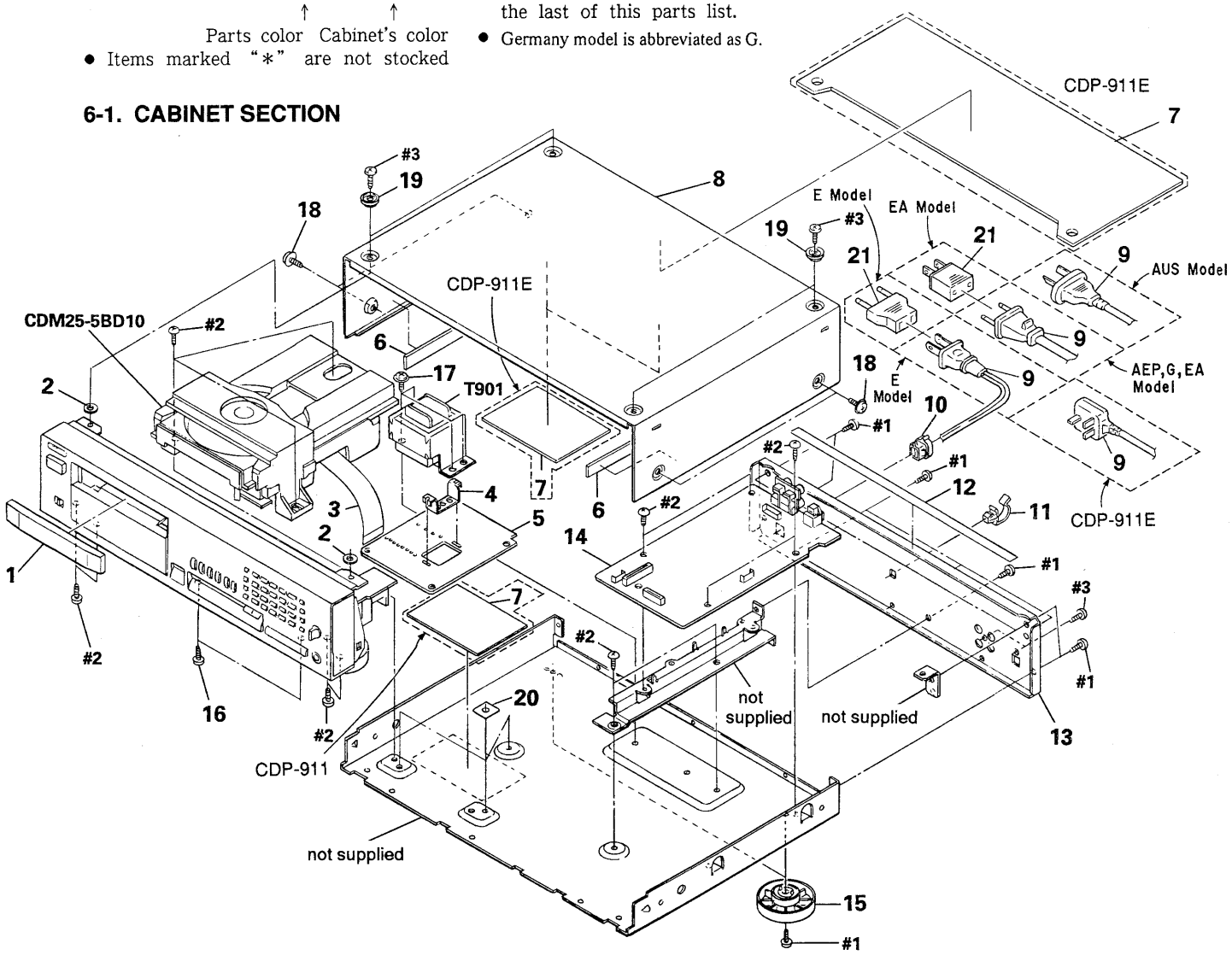
SECTION 6
EXPLODED VIEWS

NOTE :

- -××, -× mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE).....(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is given in the last of this parts list.
- Germany model is abbreviated as G.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

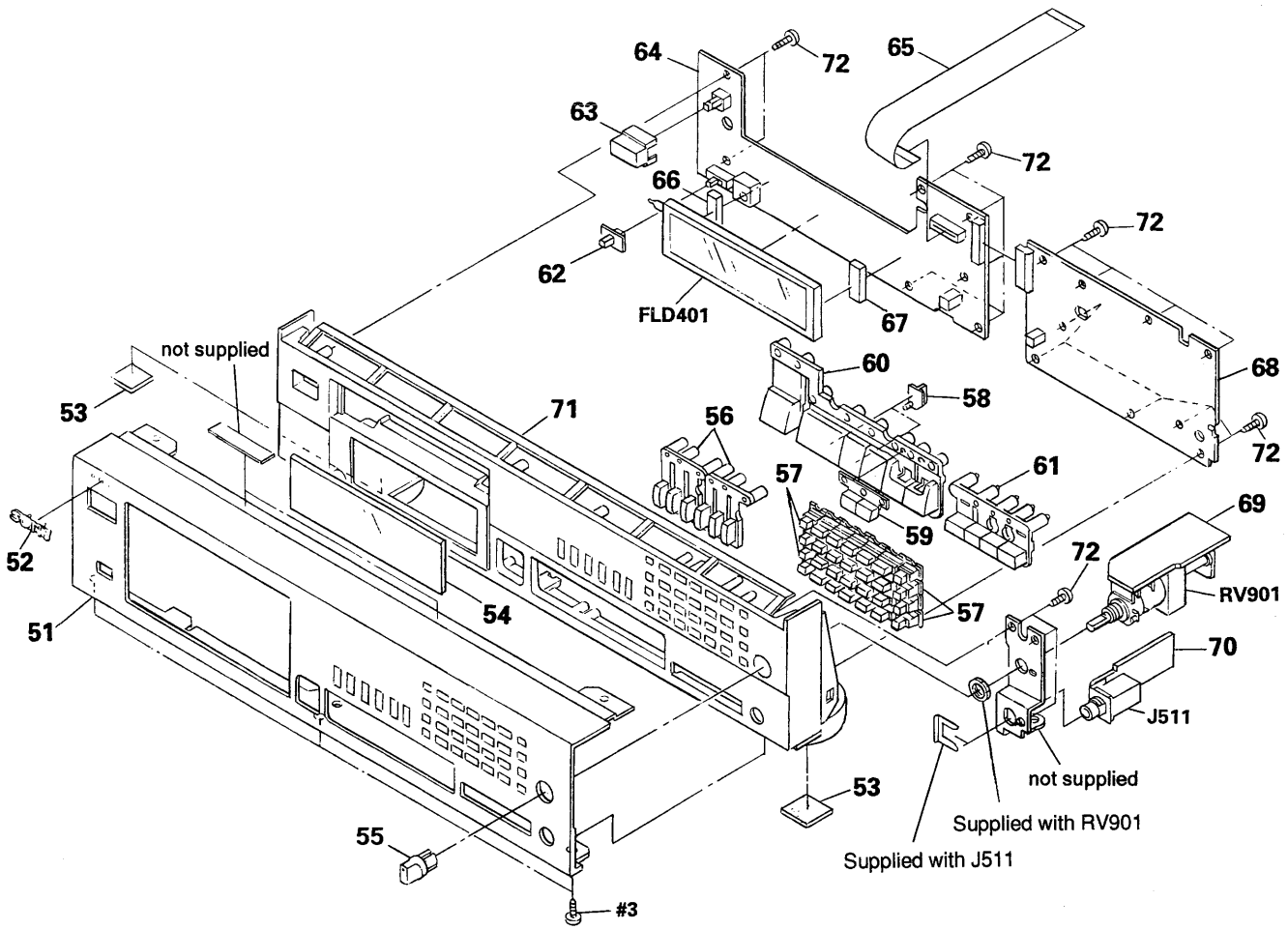
6-1. CABINET SECTION



Ref.No.	Part No.	Description	Remark
1	4-955-928-21	PANEL, LOADING	
2	4-955-939-31	WASHER (CASE)	
3	1-696-760-11	WIRE (FLAT TYPE) (23 CORE)	
4	4-952-197-01	PLATE (TR), GROUND	
* 5	1-616-930-11	POWER BOARD	
* 6	4-929-561-01	CUSHION (CASE)	
* 7	4-922-943-01	DUMPER (911)	
*	4-929-571-01	REINFORCEMENT (CASE) (911E)	
8	4-934-008-01	CASE	
⚠9	1-575-651-21	CORD, POWER (911:AEP, G, EA)	
⚠	1-696-027-11	CORD, POWER (911:E)	
⚠	1-696-571-11	CORD, POWER (911E)	
⚠	1-696-845-11	CORD, POWER (911:AUS)	
* 10	3-703-244-00	BUSHING (2104), CORD (911:EXCEPT E)	
*	3-703-571-00	BUSHING (S) (4516), CORD (911:E)	
* 11	4-949-235-01	HOOK	
* 12	4-927-653-01	SHEET (F/P)	
* 13	4-956-838-01	PANEL, BACK (911:G)	
*	4-956-838-12	PANEL, BACK (911:AEP)	

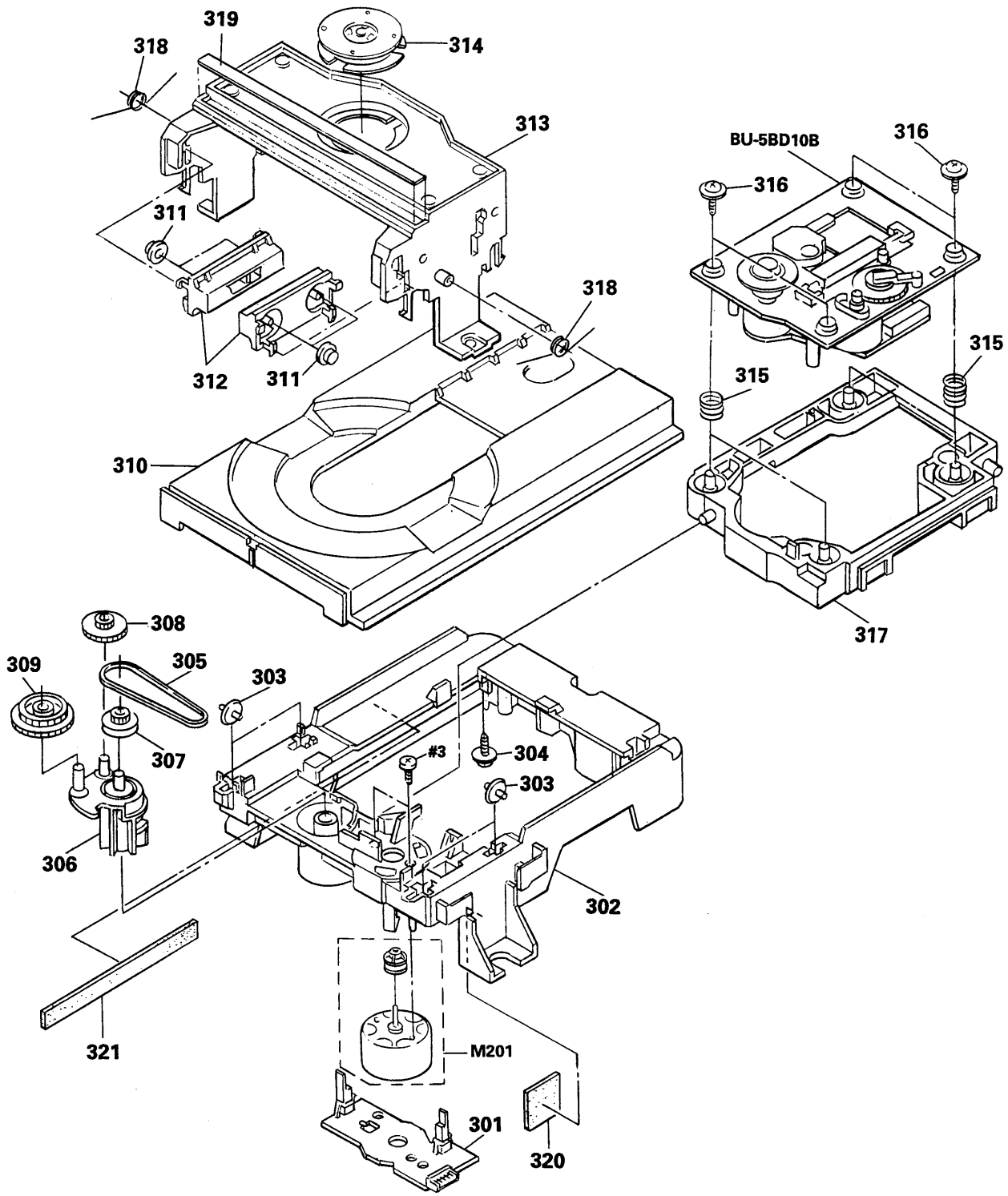
Ref.No.	Part No.	Description	Remark
* 13	4-956-838-31	PANEL, BACK (911:AUS)	
*	4-956-838-41	PANEL, BACK (911:E, EA)	
*	4-956-838-52	PANEL, BACK (911E)	
* 14	A-4649-571-A	MAIN BOARD, COMPLETE (911)	
*	A-4649-687-A	MAIN BOARD, COMPLETE (911E)	
15	4-956-885-11	FOOT (F58175S2W) (911)	
	X-4941-014-1	FOOT ASSY (911E)	
16	3-703-685-21	SCREW (+BV 3X8)	
17	4-886-821-11	SCREW, S TIGHT, +PTTWH 3X6	
18	3-704-366-01	SCREW (CASE) (M3X8)	
19	4-928-025-11	ESCUTCHEON (TOP PLATE)	
20	4-959-062-01	SHEET (CDM)	
⚠21	1-569-007-11	ADAPTOR, CONVERSION 2P (911:E)	
⚠	1-569-008-11	ADAPTOR, CONVERSION 2P (911:EA)	
⚠T901	1-423-493-11	TRANSFORMER, POWER (911:AEP, G, AUS)	
⚠	1-423-494-11	TRANSFORMER, POWER (911:E, EA)	
⚠	1-423-715-11	TRANSFORMER, POWER (911E)	

6-2. FRONT PANEL SECTION



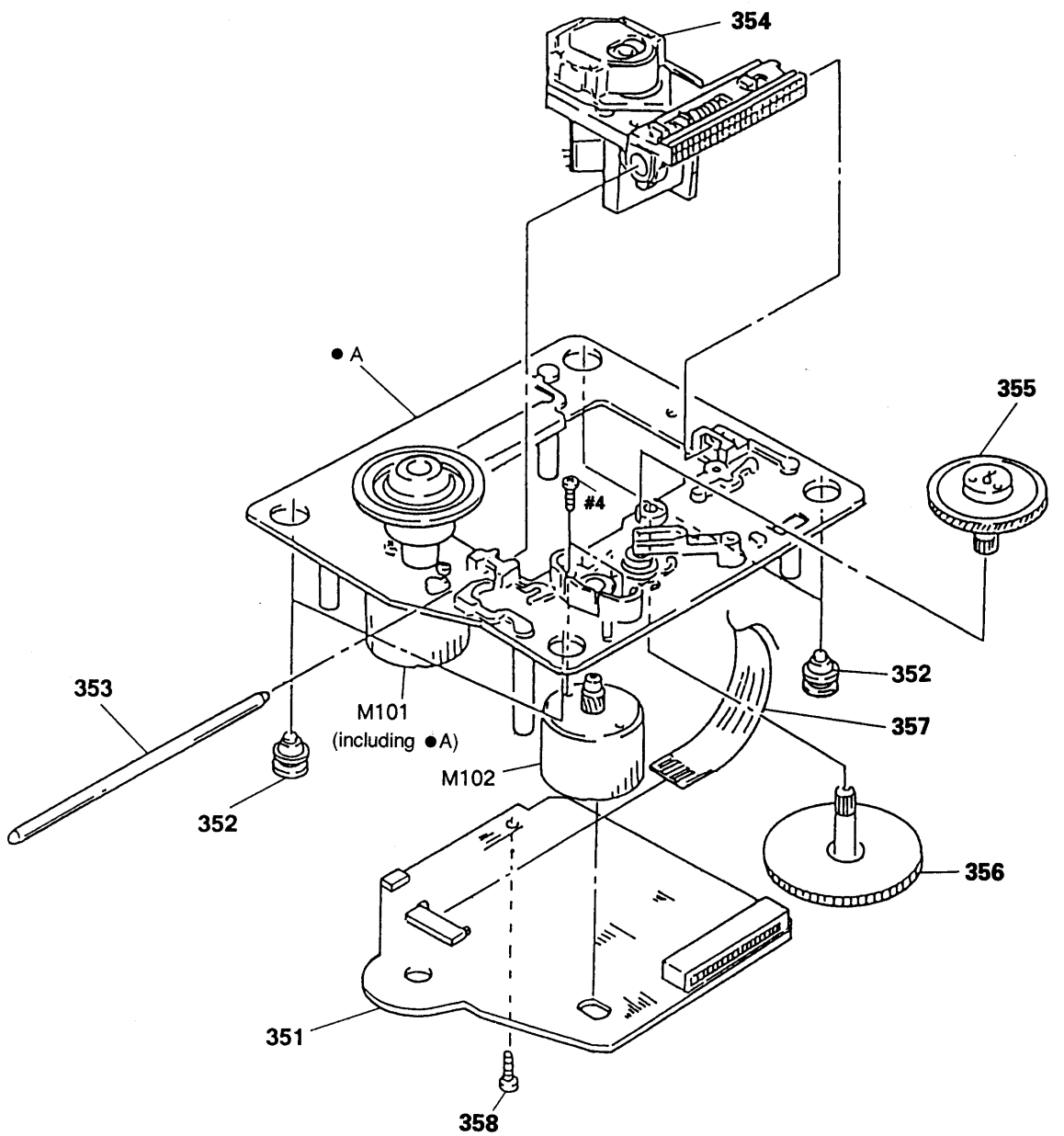
Ref. No.	Part No.	Description	Remarks
51	4-955-930-32	PANEL, FRONT (911)	
	4-955-930-62	PANEL, FRONT (911E)	
52	4-908-848-01	EMBLEM, SONY	
53	4-956-890-11	CUSHION	
54	4-955-929-31	PLATE, INDICATION	
55	A-4660-389-A	KNOB (HP) ASSY	
56	4-955-934-11	BUTTON (FILE)	
57	4-955-935-11	BUTTON (20 KEY)	
58	4-956-834-01	INDICATOR (DIA. 2)	
59	4-955-932-11	BUTTON (MMS)	
60	4-956-835-01	BUTTON (PLAY-IND)	
61	4-956-833-01	BUTTON (MODE 4)	
62	4-922-518-11	KNOB (TIMER)	
63	4-947-034-01	BUTTON (POWER)	
* 64	A-4649-569-A	DISPLAY BOARD, COMPLETE	
65	1-696-967-11	WIRE (FLAT TYPE) (17 CORE)	
66	4-956-836-01	HOLDER (L)	
67	4-956-837-01	HOLDER (R)	
* 68	1-646-929-11	FUNCTION BOARD	
* 69	1-646-926-11	VOL BOARD	
* 70	1-646-927-11	HP BOARD	
71	X-4943-372-1	BASE ASSY, PANEL (911)	
	X-4943-514-1	BASE ASSY, PANEL (911E)	
72	4-951-620-01	SCREW (2.6X8), +BVTP	
FLD401	1-517-128-11	INDICATOR TUBE, FLUORESCENT	
J511	1-568-519-41	JACK, LARGE TYPE (PHONES)	
RV901	1-238-776-11	RES, VAR, CARBON 10KX3 (LINE OUT PHONE LEVEL)	

6-3. CD MECHANISM SECTION (CDM25-5BD10)



Ref.No.	Part No.	Description	Remarks
* 301	1-646-970-11	LOADING BOARD	
* 302	4-954-190-01	BASE (MD)	
303	4-954-193-01	ROLLER (A)	
* 304	4-917-583-21	BRACKET, YOKE	
305	4-927-649-01	BELT	
306	4-933-109-01	CAM	
307	4-927-651-01	PULLEY (S)	
308	4-927-628-01	GEAR (C)	
309	4-933-107-01	GEAR (PL)	
310	4-954-191-11	TABLE, DISK	
311	4-954-194-01	ROLLER (B)	
312	4-954-199-01	PLATE, SLIDE	
* 313	4-954-192-01	HOLDER (M)	
* 314	1-452-538-11	MAGNET	
315	4-948-503-01	SPRING (BU), COMPRESSION	
316	4-933-134-01	SCREW (+PTPWH M2.6X6)	
317	4-933-129-01	HOLDER (BU)	
318	4-954-195-02	SPRING, TORSION	
319	4-959-061-01	DAMPER	
320	4-959-121-01	DAMPER	
321	4-959-077-01	DAMPER	
M201	A-4604-363-A	MOTOR (L) ASSY (LOADING)	

6-4. OPTICAL PICK-UP BLOCK SECTION (BU-5BD10B)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remarks
* 351	A-4649-432-A	BD BOARD, COMPLETE	
352	4-951-940-01	INSULATOR (BU)	
353	4-917-565-01	SHAFT, SLED	
⚠354	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)	
355	4-917-567-01	GEAR (M)	
356	4-917-564-01	GEAR (P), FLATNESS	
357	1-575-001-11	WIRE (FLAT TYPE) (12 CORE)	
358	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	

BD

SECTION 7
ELECTRICAL PARTS LIST

NOTE:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- Germany model is abbreviated as G.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u: μ , for example:
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF : μF
- Hardware (# mark) list is given in the last of this parts list.

Ref.No.	Part No.	Description			Remarks
*	A-4649-432-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C102	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C103	1-163-005-11	CERAMIC CHIP	470PF	10% 50V	
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10% 16V	
C106	1-164-346-11	CERAMIC CHIP	1uF	16V	
C107	1-164-505-11	CERAMIC CHIP	2.2uF	16V	
C108	1-163-035-00	CERAMIC CHIP	0.047uF	50V	
C109	1-163-011-11	CERAMIC CHIP	0.0015uF	10% 50V	
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5% 50V	
C111	1-163-251-11	CERAMIC CHIP	100PF	5% 50V	
C112	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C113	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C123	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C124	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C151	1-163-007-11	CERAMIC CHIP	680PF	10% 50V	
C152	1-163-007-11	CERAMIC CHIP	680PF	10% 50V	
C153	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C154	1-164-336-11	CERAMIC CHIP	0.33uF	25V	
C155	1-163-007-11	CERAMIC CHIP	680PF	10% 50V	
C156	1-163-007-11	CERAMIC CHIP	680PF	10% 50V	
C157	1-163-033-00	CERAMIC CHIP	0.022uF	50V	
C158	1-163-033-00	CERAMIC CHIP	0.022uF	50V	
C159	1-163-023-00	CERAMIC CHIP	0.015uF	5% 50V	
C160	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V	
C161	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
		< CONNECTOR >			
* CN101	1-568-865-11	SOCKET, CONNECTOR 23P			
CN102	1-568-795-11	SOCKET, CONNECTOR 12P			
		< IC >			
IC101	8-752-351-94	IC CXD2515Q			
IC102	8-759-071-79	IC BA6297AFP			

Ref.No.	Part No.	Description			Remarks
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R102	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R103	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R104	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R105	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R106	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R107	1-216-061-00	METAL CHIP	3.3K	5% 1/10W	
R108	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R109	1-216-121-00	METAL CHIP	1M	5% 1/10W	
R110	1-216-025-00	METAL CHIP	100	5% 1/10W	
R112	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R113	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R114	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R117	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R118	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R121	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R122	1-216-077-00	METAL CHIP	15K	5% 1/10W	
R123	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R124	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R125	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R126	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R127	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R131	1-216-037-00	METAL CHIP	330	5% 1/10W	
R151	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R152	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R153	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R154	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R155	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R156	1-216-070-00	METAL CHIP	7.5K	5% 1/10W	
R157	1-216-093-00	METAL CHIP	68K	5% 1/10W	
R158	1-216-076-00	METAL CHIP	13K	5% 1/10W	
R159	1-216-085-00	METAL CHIP	33K	5% 1/10W	
R160	1-216-081-00	METAL CHIP	22K	5% 1/10W	
R161	1-216-308-00	METAL CHIP	4.7	5% 1/10W	
R162	1-216-093-00	METAL CHIP	68K	5% 1/10W	
R163	1-216-093-00	METAL CHIP	68K	5% 1/10W	

BD **MAIN**

Ref.No.	Part No.	Description			Remarks
		< SWITCH >			
S101	1-572-085-11	SWITCH, LEAF (LIMIT)			
**********					
*	A-4649-571-A	MAIN BOARD, COMPLETE (911)			
*	A-4649-687-A	MAIN BOARD, COMPLETE (911E)			
		**********			
*	4-941-237-01	HEAT SINK			
	7-682-547-09	SCREW +B 3X6			
		< CAPACITOR >			
C200	1-164-159-11	CERAMIC	0.1uF		50V
C201	1-124-572-11	ELECT	100uF	20%	63V
C202	1-162-294-31	CERAMIC	0.001uF	10%	50V
C203	1-126-059-11	ELECT	10uF	20%	50V
C204	1-126-013-11	ELECT	1000uF	20%	16V
C205	1-126-016-11	ELECT	4700uF	20%	16V
C206	1-126-059-11	ELECT	10uF	20%	50V
C207	1-126-163-11	ELECT	4.7uF	20%	50V
C208	1-126-059-11	ELECT	10uF	20%	50V
C209	1-126-052-11	ELECT	100uF	20%	50V
C210	1-126-012-11	ELECT	470uF	20%	16V
C211	1-126-011-11	ELECT	330uF	20%	16V
C214	1-126-024-11	ELECT	220uF	20%	16V
C215	1-125-622-11	CAP, DOUBLE LAYERS	0.1F		5.5V
C217	1-136-165-00	FILM	0.1uF	5%	50V
C220	1-136-165-00	FILM	0.1uF	5%	50V
C225	1-136-165-00	FILM	0.1uF	5%	50V
C226	1-124-994-11	ELECT	100uF	20%	10V
C227	1-126-064-11	ELECT	220uF	20%	63V
C231	1-164-159-11	CERAMIC	0.1uF		50V
C232	1-164-159-11	CERAMIC	0.1uF		50V
C280	1-164-159-11	CERAMIC	0.1uF		50V
C281	1-164-159-11	CERAMIC	0.1uF		50V
C282	1-164-159-11	CERAMIC	0.1uF		50V
C283	1-164-159-11	CERAMIC	0.1uF		50V
C302	1-164-159-11	CERAMIC	0.1uF		50V
C303	1-124-994-11	ELECT	100uF	20%	10V
C305	1-164-159-11	CERAMIC	0.1uF		50V
C311	1-126-163-11	ELECT	4.7uF	20%	50V
C313	1-124-994-11	ELECT	100uF	20%	10V
C314	1-164-159-11	CERAMIC	0.1uF		50V
C319	1-162-208-31	CERAMIC	24PF	5%	50V
C320	1-162-199-31	CERAMIC	10PF	5%	50V
C321	1-162-199-31	CERAMIC	10PF	5%	50V
C322	1-124-994-11	ELECT	100uF	20%	10V(911)
C322	1-126-052-11	ELECT	100uF	20%	25V(911E)
C323	1-162-806-11	CERAMIC	0.1uF	10%	50V
C330	1-126-044-11	ELECT	1uF	20%	50V
C350	1-162-294-31	CERAMIC	0.001uF	10%	50V
C351	1-162-294-31	CERAMIC	0.001uF	10%	50V
C357	1-162-294-31	CERAMIC	0.001uF	10%	50V
C391	1-161-494-00	CERAMIC	0.022uF		25V
C392	1-162-306-11	CERAMIC	0.01uF	20%	16V
C501	1-136-165-00	FILM	0.1uF	5%	50V(911)
C501	1-130-495-00	MYLAR	0.1uF	5%	50V(911E)
C502	1-162-806-11	CERAMIC	0.1uF	10%	50V
C503	1-130-495-00	MYLAR	0.1uF	5%	50V
C504	1-126-052-11	ELECT	100uF	20%	50V
C506	1-162-806-11	CERAMIC	0.1uF	10%	50V
C507	1-130-495-00	MYLAR	0.1uF	5%	50V
C509	1-126-052-11	ELECT	100uF	20%	25V
C511	1-126-052-11	ELECT	100uF	20%	25V
C521	1-110-335-11	MYLAR	100PF	5%	50V
C523	1-162-216-31	CERAMIC	51PF	5%	50V
C524	1-162-216-31	CERAMIC	51PF	5%	50V
C525	1-106-359-00	MYLAR	4700PF	5%	200V
C526	1-106-343-00	MYLAR	1000PF	5%	200V
C527	1-126-051-11	ELECT	47uF	20%	63V
C528	1-102-114-00	CERAMIC	470PF	10%	50V(911)
C529	1-102-114-00	CERAMIC	470PF	10%	50V(911)
C530	1-130-297-91	FILM	0.01uF	5%	100V(911E)
C551	1-136-165-00	FILM	0.1uF	5%	50V
C552	1-136-165-00	FILM	0.1uF	5%	50V
C555	1-130-495-00	MYLAR	0.1uF	5%	50V
C556	1-130-495-00	MYLAR	0.1uF	5%	50V
C601	1-136-165-00	FILM	0.1uF	5%	50V(911)
C601	1-130-495-00	MYLAR	0.1uF	5%	50V(911E)
C602	1-162-806-11	CERAMIC	0.1uF	10%	50V
C603	1-130-495-00	MYLAR	0.1uF	5%	50V
C606	1-162-806-11	CERAMIC	0.1uF	10%	50V
C607	1-130-495-00	MYLAR	0.1uF	5%	50V
C609	1-126-052-11	ELECT	100uF	20%	25V
C611	1-126-052-11	ELECT	100uF	20%	25V
C621	1-110-335-11	MYLAR	100PF	5%	50V
C623	1-162-216-31	CERAMIC	51PF	5%	50V
C624	1-162-216-31	CERAMIC	51PF	5%	50V
C625	1-106-359-00	MYLAR	4700PF	5%	200V
C626	1-106-343-00	MYLAR	1000PF	5%	200V
C627	1-126-051-11	ELECT	47uF	20%	63V
C628	1-102-114-00	CERAMIC	470PF	10%	50V(911)
C629	1-102-114-00	CERAMIC	470PF	10%	50V(911)
C630	1-130-297-91	FILM	0.01uF	5%	100V(911E)
		< CONNECTOR >			
* CN221	1-564-510-11	PLUG, CONNECTOR 7P			
* CN326	1-568-839-11	SOCKET, CONNECTOR 23P			
* CN356	1-568-836-11	SOCKET, CONNECTOR 17P			
* CN357	1-564-512-11	PLUG, CONNECTOR 9P			

MAIN

Ref. No.	Part No.	Description	Remarks
* CN360	1-568-955-11	PIN, CONNECTOR 6P	
* CN391	1-568-954-11	PIN, CONNECTOR 5P	
		< DIODE >	
D201	8-719-200-02	DIODE 10E2	
D202	8-719-200-02	DIODE 10E2	
D203	8-719-200-02	DIODE 10E2	
D204	8-719-200-02	DIODE 10E2	
D205	8-719-200-02	DIODE 10E2	
D206	8-719-987-63	DIODE 1N4148M	
D207	8-719-109-84	DIODE RD5.1ES-B1	
D210	8-719-987-63	DIODE 1N4148M	
D211	8-719-110-08	DIODE RD8.2ES-B2	
D214	8-719-210-21	DIODE 11EQS04	
D215	8-719-987-63	DIODE 1N4148M	
D225	8-719-934-31	DIODE HZS36-3L	
D304	8-719-109-75	DIODE RD4.3ES-B2	
D322	8-719-987-63	DIODE 1N4148M	
D340	8-719-987-63	DIODE 1N4148M	
		< IC >	
IC201	8-759-630-21	IC M5290P-16	
IC202	8-759-145-58	IC uPC4558C	
IC203	8-759-605-00	IC M5F78M07L	
IC301	8-752-356-03	IC CXD2567M	
IC302	8-759-044-10	IC CXD2562Q	
IC305	8-759-822-09	IC LB1641	
IC325	8-759-991-00	IC LH5164-H1	
IC327	8-759-176-97	IC M37451M8-334FP	
IC350	8-749-921-12	IC GP1F32T	
IC551	8-759-900-72	IC NE5532P	
IC553	8-759-981-85	IC RC4556D	
IC651	8-759-900-72	IC NE5532P	
		< JACK >	
* J361	1-569-443-11	JACK, PIN 4P (LINE OUT) (911)	
J361	1-569-443-21	JACK, PIN 4P (LINE OUT) (911E)	
		< COIL >	
L302	1-410-513-11	INDUCTOR 22uH	
L304	1-408-403-00	INDUCTOR 3.3uH	
L305	1-408-403-00	INDUCTOR 3.3uH	
L320	1-408-403-00	INDUCTOR 3.3uH	
L321	1-408-403-00	INDUCTOR 3.3uH	
		< TRANSISTOR >	
Q202	8-729-900-80	TRANSISTOR DTC114ES	
Q203	8-729-900-61	TRANSISTOR DTA114ES	
Q204	8-729-900-61	TRANSISTOR DTA114ES	
Q206	8-729-905-67	TRANSISTOR 2SD1944-K	
Q207	8-729-140-96	TRANSISTOR 2SD774-34	
Q208	8-729-140-96	TRANSISTOR 2SD774-34	
Q218	8-729-140-97	TRANSISTOR 2SB734-34	
Q220	8-729-900-65	TRANSISTOR DTA144ES	
Q221	8-729-900-89	TRANSISTOR DTC144ES	
Q222	8-729-900-89	TRANSISTOR DTC144ES	
Q501	8-729-900-65	TRANSISTOR DTA144ES	
Q502	8-729-201-05	TRANSISTOR 2SC2878-B	
Q503	8-729-900-74	TRANSISTOR DTC143TS	
Q504	8-729-900-74	TRANSISTOR DTC143TS	
Q601	8-729-900-65	TRANSISTOR DTA144ES	
Q602	8-729-201-05	TRANSISTOR 2SC2878-B	
Q603	8-729-900-74	TRANSISTOR DTC143TS	
Q604	8-729-900-74	TRANSISTOR DTC143TS	
		< RESISTOR >	
R201	1-249-425-11	CARBON 4.7K 5% 1/4W	
R202	1-249-425-11	CARBON 4.7K 5% 1/4W	
R203	1-249-417-11	CARBON 1K 5% 1/4W	
⚠R204	1-212-869-00	FUSIBLE 33 5% 1/4W	F
R205	1-249-435-11	CARBON 33K 5% 1/4W	
R206	1-249-413-11	CARBON 470 5% 1/4W	
R207	1-249-417-11	CARBON 1K 5% 1/4W	
R208	1-249-423-11	CARBON 3.3K 5% 1/4W	
R209	1-249-417-11	CARBON 1K 5% 1/4W	
R210	1-249-417-11	CARBON 1K 5% 1/4W	
R214	1-249-417-11	CARBON 1K 5% 1/4W	
R216	1-249-405-11	CARBON 100 5% 1/4W	
R217	1-249-429-11	CARBON 10K 5% 1/4W	
R218	1-249-417-11	CARBON 1K 5% 1/4W	
R225	1-249-441-11	CARBON 100K 5% 1/4W	
R300	1-249-399-11	CARBON 33 5% 1/4W	
R306	1-249-429-11	CARBON 10K 5% 1/4W	
R307	1-249-429-11	CARBON 10K 5% 1/4W	
R308	1-249-429-11	CARBON 10K 5% 1/4W	
R309	1-249-429-11	CARBON 10K 5% 1/4W	
R310	1-249-429-11	CARBON 10K 5% 1/4W	
R311	1-249-429-11	CARBON 10K 5% 1/4W	
R312	1-249-429-11	CARBON 10K 5% 1/4W	
R313	1-249-429-11	CARBON 10K 5% 1/4W	
R314	1-249-429-11	CARBON 10K 5% 1/4W	
R315	1-249-429-11	CARBON 10K 5% 1/4W	
R316	1-249-429-11	CARBON 10K 5% 1/4W	
R317	1-249-429-11	CARBON 10K 5% 1/4W	
R319	1-247-903-00	CARBON 1M 5% 1/4W	
R320	1-249-417-11	CARBON 1K 5% 1/4W	
R321	1-249-417-11	CARBON 1K 5% 1/4W	
R322	1-249-417-11	CARBON 1K 5% 1/4W	
R323	1-249-417-11	CARBON 1K 5% 1/4W	
R324	1-249-417-11	CARBON 1K 5% 1/4W	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref.No.	Part No.	Description				Remarks
R325	1-249-417-11	CARBON	1K	5%	1/4W	
R331	1-249-405-11	CARBON	100	5%	1/4W	
R340	1-249-441-11	CARBON	100K	5%	1/4W	
R341	1-249-413-11	CARBON	470	5%	1/4W	
R342	1-249-417-11	CARBON	1K	5%	1/4W	
R343	1-249-417-11	CARBON	1K	5%	1/4W	
R344	1-249-417-11	CARBON	1K	5%	1/4W	
R345	1-249-417-11	CARBON	1K	5%	1/4W	
R346	1-249-417-11	CARBON	1K	5%	1/4W	
R347	1-249-411-11	CARBON	330	5%	1/4W	
R348	1-249-441-11	CARBON	100K	5%	1/4W	
R349	1-249-425-11	CARBON	4.7K	5%	1/4W	
R350	1-249-441-11	CARBON	100K	5%	1/4W	
R351	1-249-425-11	CARBON	4.7K	5%	1/4W	
R352	1-249-429-11	CARBON	10K	5%	1/4W	
R521	1-215-459-00	METAL	39K	1%	1/6W	
R522	1-215-459-00	METAL	39K	1%	1/6W	
R523	1-215-459-00	METAL	39K	1%	1/6W	
R524	1-215-459-00	METAL	39K	1%	1/6W	
R525	1-215-452-00	METAL	20K	1%	1/6W	
R526	1-215-461-00	METAL	47K	1%	1/6W	
R527	1-215-452-00	METAL	20K	1%	1/6W	
R528	1-215-461-00	METAL	47K	1%	1/6W	
R529	1-249-556-11	CARBON	1.5K	5%	1/4W	
R530	1-249-556-11	CARBON	1.5K	5%	1/4W	
R531	1-247-704-11	CARBON	220	5%	1/4W	
R532	1-247-704-11	CARBON	220	5%	1/4W	
R533	1-247-704-11	CARBON	220	5%	1/4W	
R534	1-259-488-11	CARBON	330K	5%	1/4W	
R535	1-249-393-11	CARBON	10	5%	1/4W	
R536	1-249-409-11	CARBON	220	5%	1/4W	
R551	1-249-435-11	CARBON	33K	5%	1/4W	
R552	1-249-435-11	CARBON	33K	5%	1/4W	
R553	1-249-435-11	CARBON	33K	5%	1/4W	
R554	1-249-435-11	CARBON	33K	5%	1/4W	
R555	1-249-425-11	CARBON	4.7K	5%	1/4W	
R556	1-249-425-11	CARBON	4.7K	5%	1/4W	
R557	1-249-435-11	CARBON	33K	5%	1/4W	
R558	1-249-435-11	CARBON	33K	5%	1/4W	
R621	1-215-459-00	METAL	39K	1%	1/6W	
R622	1-215-459-00	METAL	39K	1%	1/6W	
R623	1-215-459-00	METAL	39K	1%	1/6W	
R624	1-215-459-00	METAL	39K	1%	1/6W	
R625	1-215-452-00	METAL	20K	1%	1/6W	
R626	1-215-461-00	METAL	47K	1%	1/6W	
R627	1-215-452-00	METAL	20K	1%	1/6W	
R628	1-215-461-00	METAL	47K	1%	1/6W	
R629	1-249-556-11	CARBON	1.5K	5%	1/4W	
R630	1-249-556-11	CARBON	1.5K	5%	1/4W	
R631	1-247-704-11	CARBON	220	5%	1/4W	
R632	1-247-704-11	CARBON	220	5%	1/4W	
R633	1-247-704-11	CARBON	220	5%	1/4W	
R634	1-259-488-11	CARBON	330K	5%	1/4W	
R635	1-249-393-11	CARBON	10	5%	1/4W	
R636	1-249-409-11	CARBON	220	5%	1/4W	
		< VIBRATOR >				
X331	1-579-161-11	VIBRATOR, CRYSTAL (45.159MHz)				
X355	1-577-377-11	VIBRATOR, CERAMIC (10MHz)				
**********						
*	A-4649-569-A	DISPLAY BOARD, COMPLETE				
		**********				
	4-956-836-01	HOLDER (L)				
	4-956-837-01	HOLDER (R)				
		< CAPACITOR >				
C401	1-164-159-11	CERAMIC	0.1uF		50V	
C402	1-164-159-11	CERAMIC	0.1uF		50V	
C403	1-164-159-11	CERAMIC	0.1uF		50V	
C404	1-126-154-11	ELECT	47uF	20%	6.3V	
		< CONNECTOR >				
* CN401	1-568-836-11	SOCKET, CONNECTOR 17P				
CN402	1-750-199-11	CONNECTOR, BOARD TO BOARD 18P				
		< DIODE >				
D404	8-719-303-02	LED	SEL2510C-D (▷)			
D412	8-719-987-63	DIODE	1N4148M			
D413	8-719-987-63	DIODE	1N4148M			
		< FLUORESCENT INDICATOR >				
FLD401	1-517-128-11	INDICATOR TUBE, FLUORESCENT				
		< IC >				
IC401	8-759-167-73	IC	MSC62408-100GS-V1K			
IC402	8-741-100-48	IC	SBX1610-59			
		< TRANSISTOR >				
Q404	8-729-900-45	TRANSISTOR	DTC114EF			
Q410	8-729-900-45	TRANSISTOR	DTC114EF			
Q411	8-729-900-45	TRANSISTOR	DTC114EF			
		< RESISTOR >				
R401	1-249-429-11	CARBON	10K	5%	1/4W	
R402	1-249-429-11	CARBON	10K	5%	1/4W	
R404	1-249-408-11	CARBON	180	5%	1/4W	
R405	1-249-417-11	CARBON	1K	5%	1/4W	
R409	1-247-903-00	CARBON	1M	5%	1/4W	
R410	1-249-441-11	CARBON	100K	5%	1/4W	

DISPLAY | VOL | HP | FUNCTION

Ref. No.	Part No.	Description				Remarks
R411	1-249-441-11	CARBON	100K	5%	1/4W	
		< SWITCH >				
S401	1-571-305-11	SWITCH, PUSH (1 KEY) (POWER)				
S402	1-570-157-51	SWITCH, SLIDE (TIMER)				
S403	1-554-303-21	SWITCH, TACTILE (REPEAT)				
S404	1-554-303-21	SWITCH, TACTILE (TIME/MEMO)				
S405	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)				
S406	1-554-303-21	SWITCH, TACTILE (▷)				
		< VIBRATOR >				
X401	1-577-101-11	VIBRATOR, CERAMIC (4.19MHz)				
**********						
*	1-646-926-11	VOL BOARD				
		*********				
		< CAPACITOR >				
C901	1-164-159-11	CERAMIC	0.1uF		50V	
		< CONNECTOR >				
* CN901	1-568-955-11	PIN, CONNECTOR 6P				
* CN902	1-564-508-11	PLUG, CONNECTOR 5P				
		< IC >				
IC901	8-759-962-08	IC BA6208				
		< TRANSISTOR >				
Q901	8-729-900-80	TRANSISTOR DTC114ES				
		< RESISTOR >				
R903	1-249-417-11	CARBON	1K	5%	1/4W	
R904	1-249-413-11	CARBON	470	5%	1/4W	
		< VARIABLE RESISTOR >				
RV901	1-238-776-11	RES, VAR, CARBON 10KX3				(LINE OUT PHONE LEVEL)
**********						
*	1-646-927-11	HP BOARD				
		********				
		< CAPACITOR >				
C550	1-162-294-31	CERAMIC	0.001uF	10%	50V	
C651	1-162-294-31	CERAMIC	0.001uF	10%	50V	
		< CONNECTOR >				
* CN511	1-564-506-11	PLUG, CONNECTOR 3P				
		< JACK >				
J511	1-568-519-41	JACK, LARGE TYPE (PHONES)				
		< RESISTOR >				
R550	1-249-402-11	CARBON	56	5%	1/4W	
R650	1-249-402-11	CARBON	56	5%	1/4W	
**********						
*	1-646-929-11	FUNCTION BOARD				
		**********				
		< CONNECTOR >				
CN801	1-750-190-11	CONNECTOR, BOARD TO BOARD 18P				
		< DIODE >				
D803	8-719-301-49	LED SEL2810A (▮▮)				
D811	8-719-987-63	DIODE 1N4148M				
D814	8-719-987-63	DIODE 1N4148M				
D815	8-719-987-63	DIODE 1N4148M				
D816	8-719-987-63	DIODE 1N4148M				
D817	8-719-987-63	DIODE 1N4148M				
		< TRANSISTOR >				
Q803	8-729-900-45	TRANSISTOR DTC114EF				
		< RESISTOR >				
R803	1-249-412-11	CARBON	390	5%	1/4W	
R813	1-249-417-11	CARBON	1K	5%	1/4W	
		< SWITCH >				
S801	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE)				
S802	1-554-303-21	SWITCH, TACTILE (PEAK SEARCH)				
S803	1-554-303-21	SWITCH, TACTILE (FILE RECALL)				
S804	1-554-303-21	SWITCH, TACTILE (FILE)				
S805	1-554-303-21	SWITCH, TACTILE (ERASE)				
S806	1-554-303-21	SWITCH, TACTILE (FADER)				
S812	1-554-303-21	SWITCH, TACTILE (▯◁◁)				
S813	1-554-303-21	SWITCH, TACTILE (▷▷▯)				
S814	1-554-303-21	SWITCH, TACTILE (◀◀)				
S815	1-554-303-21	SWITCH, TACTILE (▶▶)				
S816	1-554-303-21	SWITCH, TACTILE (A.SPACE/A.CUE)				
S820	1-554-303-21	SWITCH, TACTILE (LEVEL FILE)				
S824	1-554-303-21	SWITCH, TACTILE (▮▮)				
S825	1-554-303-21	SWITCH, TACTILE (■)				
S826	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)				
S830	1-554-303-21	SWITCH, TACTILE (1)				
S831	1-554-303-21	SWITCH, TACTILE (2)				
S832	1-554-303-21	SWITCH, TACTILE (3)				

Ref. No.	Part No.	Description	Remarks
S833	1-554-303-21	SWITCH, TACTILE (4)	
S834	1-554-303-21	SWITCH, TACTILE (5)	
S835	1-554-303-21	SWITCH, TACTILE (>20)	
S836	1-554-303-21	SWITCH, TACTILE (CONTINUE)	
S840	1-554-303-21	SWITCH, TACTILE (6)	
S841	1-554-303-21	SWITCH, TACTILE (7)	
S842	1-554-303-21	SWITCH, TACTILE (8)	
S843	1-554-303-21	SWITCH, TACTILE (9)	
S844	1-554-303-21	SWITCH, TACTILE (10)	
S845	1-554-303-21	SWITCH, TACTILE (CHECK)	
S846	1-554-303-21	SWITCH, TACTILE (SHUFFLE)	
S850	1-554-303-21	SWITCH, TACTILE (11)	
S851	1-554-303-21	SWITCH, TACTILE (12)	
S852	1-554-303-21	SWITCH, TACTILE (13)	
S853	1-554-303-21	SWITCH, TACTILE (14)	
S854	1-554-303-21	SWITCH, TACTILE (15)	
S855	1-554-303-21	SWITCH, TACTILE (CLEAR)	
S856	1-554-303-21	SWITCH, TACTILE (PROGRAM)	
S860	1-554-303-21	SWITCH, TACTILE (16)	
S861	1-554-303-21	SWITCH, TACTILE (17)	
S862	1-554-303-21	SWITCH, TACTILE (18)	
S863	1-554-303-21	SWITCH, TACTILE (19)	
S864	1-554-303-21	SWITCH, TACTILE (20)	
S866	1-554-303-21	SWITCH, TACTILE (C. INDEX)	
**********			
*	1-646-930-11	POWER BOARD	
		**********	
		< CAPACITOR >	
C701	1-164-159-11	CERAMIC 0.1uF	50V
		< CONNECTOR >	
* CN701	1-580-230-11	PIN, CONNECTOR (PC BOARD) 3P	
**********			
*	1-646-970-11	LOADING BOARD	
		**********	
		< CONNECTOR >	
* CN151	1-568-943-11	PIN, CONNECTOR 5P	
		< SWITCH >	
S151	1-572-086-11	SWITCH, LEAF (LOAD IN)	
S152	1-572-086-11	SWITCH, LEAF (LOAD OUT)	
**********			

Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS	
		**********	
3	1-696-760-11	WIRE (FLAT TYPE) (23 CORE)	
⚠9	1-575-651-21	CORD, POWER (911:AEP, G, EA)	
⚠	1-696-027-11	CORD, POWER (911:E)	
⚠	1-696-571-11	CORD, POWER (911E)	
⚠	1-696-845-11	CORD, POWER (911:AUS)	
⚠21	1-569-007-11	ADAPTOR, CONVERSION 2P (911:E)	
⚠	1-569-008-11	ADAPTOR, CONVERSION 2P (911:EA)	
65	1-696-967-11	WIRE (FLAT TYPE) (17 CORE)	
* 314	1-452-538-11	MAGNET	
* 354	8-848-144-11	OPTICAL PICK-UP BLOCK (KSS-240A)	
357	1-575-001-11	WIRE (FLAT TYPE (12 CORE)	
M101	X-4917-523-3	MOTOR ASSY (SPINDLE)	
M102	X-4917-504-1	MOTOR ASSY (SLED)	
M201	X-4604-363-A	MOTOR (L) ASSY (LOADING)	
⚠T901	1-423-493-11	TRANSFORMER, POWER (911:AEP, G, AUS)	
⚠	1-423-494-11	TRANSFORMER, POWER (911:E, EA)	
⚠	1-423-715-11	TRANSFORMER, POWER (911E)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-465-593-11	REMOTE COMMANDER (RM-D991)	
	1-558-271-11	CORD, CONNECTION	
	1-590-925-31	CORD, CONNECTION (911E)	
	1-696-170-11	CORD, CONNECTION (911)	
	3-707-584-01	COVER, BATTERY (for RM-D991)	
	3-756-335-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, CHINESE)	
	3-756-335-41	MANUAL, INSTRUCTION (GERMAN, DUTCH, ITALIAN, POLISH)	
*	4-944-761-02	CUSHION	
*	4-956-951-01	INDIVIDUAL CARTON (911)	
*	4-956-951-31	INDIVIDUAL CARTON (911E)	
**********			

HARDWARE LIST

#1	7-682-548-09	SCREW +BVTT	3X8 (S)
#2	7-685-871-01	SCREW +BVTT	3X6 (S)
#3	7-685-646-79	SCREW +BTP	3X8 TYPE2 N-S
#4	7-621-255-15	SCREW +P	2X3

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

9-957-756-11

Sony Corporation
Audio Group

English
93D09Y0949-1
Printed in Germany
© 1993.4
Published by Audio Corporate Planning Group